Appendix C: Air Quality and Greenhouse Study

Air Quality and Greenhouse Gas Assessment Report
Grand Park Specific Plan
Ontario, California

Prepared for:
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ACRONYMS AND ABBREVIATIONS

µg/m3	micrograms per cubic meter
AB	Assembly Bill
AERMOD	American Meteorological Society/Environmental Protection Agency Regulatory Model
AQMP	Air Quality Management Plan
ARB	California Air Resources Board
CalEEMod	California Emissions Estimator Model
CALINE4	California Line Source Model
CEQA	California Environmental Quality Act
CO	carbon monoxide
CO2	carbon dioxide
diesel PM	diesel particulate matter
EMFAC	ARB Emission Factor Model
EPA	Environmental Protection Agency
LOS	Level of Service
LST	Localized Significance Threshold
MTCO2e	metric tons of carbon dioxide equivalent
MMTCO2e	million metric tons of carbon dioxide equivalent
NOX	nitrogen oxides
NO2	nitrogen dioxide
OEHHA	California Office of Environmental Health and Hazards Assessment
$PM_{2.5}$	particulate matter less than 2.5 microns in diameter
PM_{10}	particulate matter less than 10 microns in diameter
ppm	parts per million
ppt	parts per trillion
ROG	reactive organic gases
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SOX	sulfur oxides
TAC	Toxic air contaminant
VOC	volatile organic compounds

SECTION 1: EXECUTIVE SUMMARY

1.1 - Purpose and Methods of Analysis

The following air quality and greenhouse gas analysis was prepared to evaluate whether the estimated criteria air pollutant and greenhouse gas emissions generated from the Grand Park Specific Plan ("project") would cause significant impacts to air resources in the project area. This assessment was conducted within the context of the California Environmental Quality Act (CEQA, California Public Resources Code Sections 21000, et seq.). The methodology follows South Coast Air Quality Management District (SCAQMD) recommendations for quantification of emissions and evaluation of potential impacts to air resources.

1.2 - Summary of Analysis Results

The following is a summary of the analysis results:

- The project would exceed the SCAQMD regional emission significance thresholds for VOC and NO_X during construction.
- The project would not exceed the SCAQMD localized significance thresholds during construction .
- The project would exceed the SCAQMD regional significance thresholds for VOC, NO_X, CO, and PM_{10} during operation.
- The project's sensitive receptors would not be impacted by exposures from nearby sources of toxics air contaminants
- The project-generated traffic would not result in a localized carbon monoxide hot spot at project impacted intersections.
- The project's sensitive receptors would not be significantly impacted by odors from nearby sources of odorous emissions.

Impact AIR-1: The project would conflict with or obstruct implementation of the applicable air quality plan. **Significant and unavoidable impact.**

Impact AIR-2: The project would not violate air quality standards or contribute substantially to an existing or projected air quality violation. **Less than significant impact.**

Impact AIR-3: The project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions, which

exceed quantitative thresholds for ozone precursors). **Significant and unavoidable impact.**

Impact AIR-4: The project would not expose sensitive receptors to substantial pollutant concentrations**. Less than significant impact.**

Impact AIR-5: The project would not create or be exposed to objectionable odors affecting a substantial number of people. **Less than significant impact.**

Impact AIR-6: The project would not generate direct and indirect greenhouse gas emissions that would result in a significant impact on the environment. Less than **significant impact.**

Impact AIR-7: The project would not conflict with an applicable plan, policy or regulation of an agency adopted to reduce the emissions of greenhouse gases. **Less than significant impact.**

1.3 - Mitigation Measures Applied to the Project

Construction Measures

MM AQ-1 During project construction, the following measures shall be implemented to the satisfaction of the City of Ontario.

a) Prior to the year 2017, off-road diesel-powered construction equipment greater than 50 horsepower shall meet or exceed United States Environmental Protection Agency (EPA) Tier 3 off-road emissions standards.

b) In the year 2017 and after, off-road diesel-powered construction equipment greater than 50 horsepower shall implement one of the following: meet EPA Tier 4 emissions standards, meet EPA Tier 4 Interim emissions standards, or meet EPA Tier 3 standards with California Air Resources Board verified Level 3 filters to reduce 85 percent diesel particulate matter. If a good faith effort to rent equipment within 200 miles of the project has been conducted, the results of which are submitted to the City, but has been unsuccessful in obtaining the necessary construction equipment, then Tier 3 equipment can be used.

f) Onsite electrical hook ups to power grid shall be provided for electric construction tools including saws, drills and compressors, where feasible, to reduce the need for diesel powered electric generators.

g) The project shall demonstrate compliance with South Coast Air Quality Management District Rule 403 concerning fugitive dust and provide appropriate documentation to the City of Ontario.

MM AQ-2 Prior to issuance of any grading permits by the Building Department, the developer shall provide a plan to the City of Ontario that describes in detail the location of onsite equipment staging areas, stockpiling/storage areas, material lay-down areas, and construction parking areas. In addition and prior to the issuance of any grading permits, the developer shall provide a traffic control plan to the City of Ontario that is intended to minimize traffic congestion and delays that increase idling and acceleration emissions by providing safe detours around the project construction site, as well as, provide temporary traffic control (e.g., flag person) during construction-related truck hauling activities. The traffic control plan shall be prepared in accordance with U.S. Department of Transportation Federal Highways Administration Rule on Work Zone Safety 23 CFR 630 Subpart J, Developing and Implementing Traffic Management Plans for Work Zones.

MM AQ-3 The following measures shall be applied to all projects during construction of the project:

a) Use paints with a volatile organic compound (VOC) content 10 grams per Liter or lower for both interior surfaces.
b) Recycle leftover paint. Take any left over paint to a household hazardous waste center; do not mix leftover water-based and oil-based.
c) Keep lids closed on all paint containers when not in use to prevent VOC emissions and excessive odors.
d) For water-based paints, clean up with water only. Whenever possible, do not rinse the clean up water down the drain or pour it directly into the ground or the storm drain. Set aside the can of clean up water and take it to the hazardous waste center (www.cleanup.org).
e) Use compliant low VOC cleaning solvents to clean paint application equipment.
f) Keep all paint and solvent laden rags in sealed containers to prevent VOC emissions.

Operation Measures

MM AQ-4 During operation, the following land use and building mitigation measures shall be implemented to the satisfaction of the City of Ontario that would assist in reducing both criteria pollutant and greenhouse gas emissions.

a) Require that new development projects in the project that prepare demolition prepare a demolition plan to reduce waste by recycling and/or salvaging a nonhazardous construction and demolition debris.

b) Require that new developments design buildings to be energy efficient by siting buildings to take advantage of shade, prevailing winds, landscaping, and sun screening to reduce energy required for cooling
c) Mitigate climate change by decreasing heat gain from pavement and other hard surfaces associated with infrastructure.
d) Require the use of Energy Star appliances and fixtures in discretionary new development.
e) Encourage the performance of energy audits for residential and commercial buildings prior to completion of sale, and that audit results and information about opportunities for energy efficiency improvements be presented to the buyer
f) Require the installation of outdoor electrical outlets on buildings to support the use, where practical, of electric lawn and garden equipment, and other tools that would otherwise be run with small gas engines or portable generators.
g) Implement enhanced programs to divert solid waste from landfill operations
h) Create and preserve distinct, identifiable neighborhoods whose characteristics support pedestrian travel, especially within, but not limited to, mixed-use and transit oriented development areas
i) Provide continuous sidewalks with shade trees and landscape strips to separate pedestrians from traffic.

MM AQ-5 During operation, the following transportation mitigation measures shall be implemented to the satisfaction of the City of Ontario that would assist in reducing both criteria pollutant and greenhouse gas emissions.

a) Provide safe and convenient access for pedestrians and bicyclists to, across, and along major transit priority streets. Encouraging new construction to include vehicle access to properly wired outdoor receptacles to accommodate ZEV and/or plug in electric hybrids (PHEV).

b) Reduce required road width standards wherever feasible to calm traffic and encourage alternative modes of transportation.

c) Add bicycle facilities to city streets and public spaces, where feasible.

d) Ensure new development is designed to make public transit a viable choice for residents

e) Ensure transit stops and bus lanes are safe, convenient, clean, sheltered, well-lit, and efficient.

f) Provide access for pedestrians and bicyclist to public transportation through construction of dedicated paths, where feasible

g) Require all new traffic lights installed be energy efficient traffic signals.

MM AQ-6 During operation, the following landscape and water conservation mitigation measures shall be implemented to the satisfaction of the City of Ontario that would assist in reducing both criteria pollutant and greenhouse gas emissions.

a) Reduce per capita water consumption consistent with state law by 2020.
b) Promote the use of recycled water, including grey water systems for residential irrigation
c) Implement building design guidelines and criteria developed by the City to promote water efficient building design, including minimizing the amount of non-roof impervious surfaces around the building(s).
d) Ensure water-efficient infrastructure and technology are used in new construction, including low-flow toilets and shower heads, moisture-sensing irrigation, and other such advances.
e) Require the use of reclaimed water for landscape irrigation in all new development and on public property where such connections are within the service boundaries of the City's reclaimed water system.
f) Require all new landscaping irrigation systems installed within the project to be automated, high-efficient irrigation systems to reduce water use and require use of bubbler irrigation; low-angle, low-flow spray heads; or moisture sensors.
g) Requiring planting drought-tolerant and native species, and covering exposed dirt with moisture-retaining mulch or other materials such as decomposed granite
h) Promote planting of deciduous or evergreen low-VOC producing shade trees emphasizing native trees and vegetation

1.4 - Project Location

The project is located within the City of Ontario, California south of Edison Avenue west of Haven Avenue, north of Eucalyptus Ave, and east if Archibald Avenue. The approximately 320 acre project site is located within The Ontario Plan (TOP) of the City of Ontario, approximately ten miles south of the San Gabriel Mountains and four miles north of the Santa Ana River and in the Grand Park Specific Plan. Exhibit 1 depicts the regional location of the proposed project while Exhibit 2 shows a view of the project site plan.

1.5 - Project Setting

The Grand Park Specific Plan is situated in the southwestern San Bernardino Valley, a relatively undeveloped area generally characterized by agricultural properties, especially dairy-related uses. Local access to the project site is provided via Edison Avenue, Haven Avenue, Archibald Avenue, and Eucalyptus Avenue (future Merrill Avenue), which abut the project site on all four sides. The project area is largely characterized by agricultural land with residential homes, two dairy barns, garage, shed, swimming pool, and several agricultural-related structures.

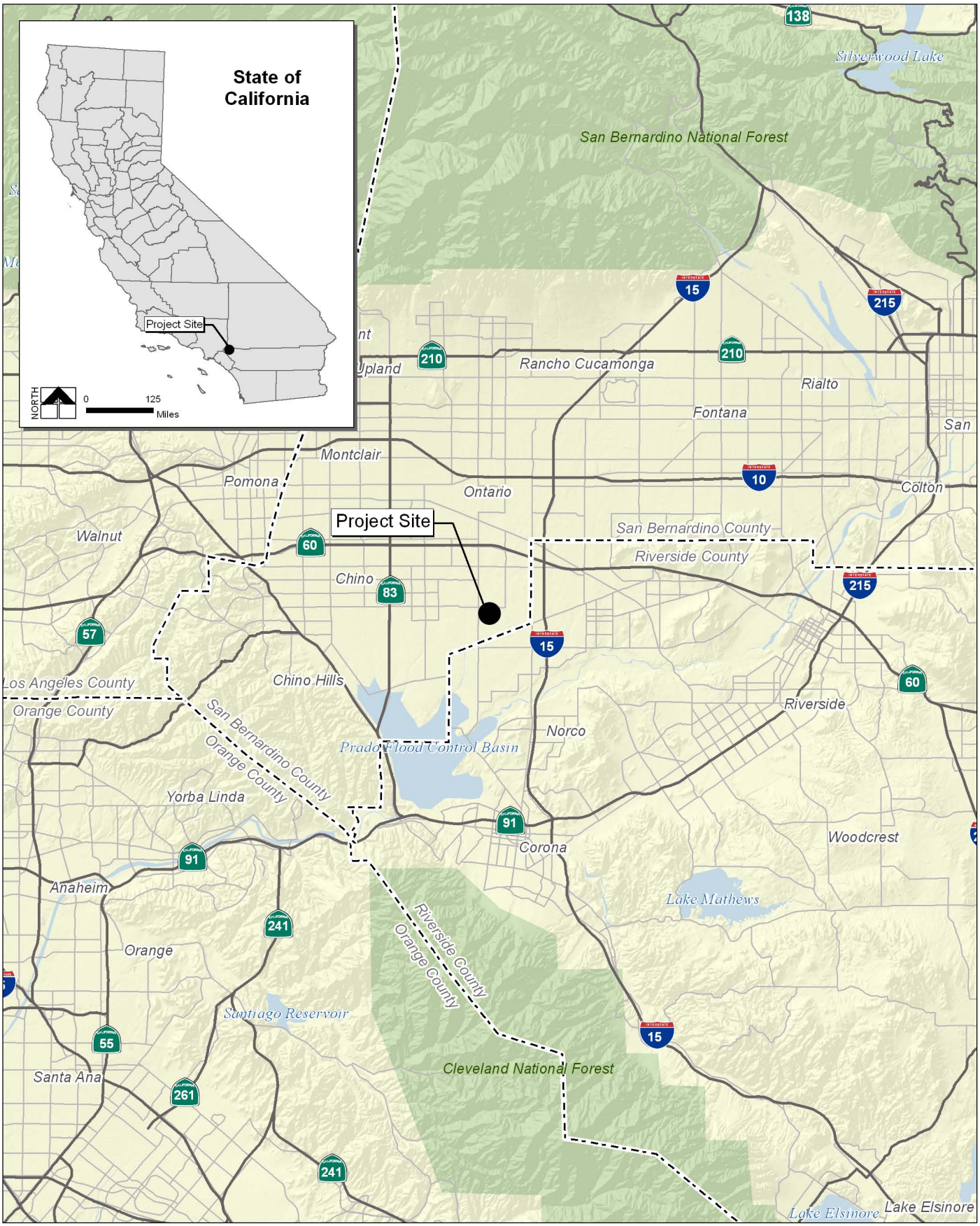
1.6 - Project Characteristics

The project covers approximately 320 acres and proposes up to 1,327 residential units in a variety of housing types and densities. Also included is an elementary school, high school and the City of Ontario Grand Park. The specific land uses proposed within the Specific Plan area are summarized in Table 1.

Table 1: Summary of Proposed Specific Plan Land Uses

Land Use	Dwelling Units	Gross Acres[1]	Gross Density (DU/Acre)
Residential Uses			
PA 1 (MDR)[3]	99 DU	7.0 AC	14.1 DU/AC
PA 2 (LDR)[4]	122 DU	12.6 AC	9.8 DU/AC
PA 3 (MDR)[3]	157 DU	10.9 AC	14.4 DU/AC
PA 4 (LDR)[4]	145 DU	13.9 AC	10.4 DU/AC
PA 5 (LDR)[4]	105 DU	13.2 AC	8.0 DU/AC
PA 6 (LDR)[4]	111 DU	17.6 AC	6.3 DU/AC
PA 7 (HDR)[5]	268 DU	14.9 AC	18.0 DU/AC
PA 8 (HDR)[5]	319 DU	16.5 AC	19.3 DU/AC6
Residential Uses Total	**1,327 DU**	**106.6 AC[1]**	**12.4 DU/AC**
Other Uses			
PA 9 (Elementary School)	—	10.2[5] AC	—
PA 10 (High School)	—	50.1[5] AC	—
Grand Park	—	130.5[5] AC	—
Roadways	—	22.8[5]	—
Other Uses Total	—	**213.6[5] AC**	—
Project Total	**1,327 DU**	**320.2[5] AC**	12.4 DU/acre

Notes: DU = dwelling unit
1. Gross Acres: Calculated to street centerline and includes Pocket Parks and Paseos.
2. Medium Density Residential.
3. Low Density Residential
4. High Density Residential
5. Net acres



Source: Census 2000 Data, The CaSIL, MBA GIS 2013.

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NORTH

5 2.5 0 5

Miles

Exhibit 1
Project Location Map

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Source: MBA 2013

NORTH

3,800 1,900 0 3,800

Feet

Michael Brandman Associates

Exhibit 2
Project Vicinity Map

Source: ESRI World Imagery.

NORTH

2,000 1,000 0 2,000 Feet

Michael Brandman Associates

Exhibit 3
Aerial Photograph

1.7 - Standard Conditions

During construction and operation, the project must comply with applicable rules and regulations. The following are rules the project may be required to comply with, either directly, or indirectly.

1.7.1 - South Coast Air Quality Management District Rules

SCAQMD Rule 402 prohibits a person from discharging from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

SCAQMD Rule 403 governs emissions of fugitive dust during construction and operation activities. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, SCAQMD Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance offsite. Applicable dust suppression techniques from Rule 403 are summarized below. Implementation of these dust suppression techniques can reduce the fugitive dust generation (and thus the PM_{10} component). Compliance with these rules would reduce impacts on nearby sensitive receptors.

Rule 403 measures may include but are not limited to the following:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least three times daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code section 23114.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.
- Suspension of all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.

- Bumper strips or similar best management practices shall be provided where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.
- Replanting disturbed areas as soon as practical.
- Follow procedures for a "large operation" including the submission to and approval from the SCAQMD of a Large Operation Notification (Form 403).
- During all construction activities, construction contractors shall sweep onsite and offsite streets if silt is carried to adjacent public thoroughfares, to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

SCAQMD Rule 445 prohibits the installation of any permanent wood burning devices in into any new development unless the device meets one of several exemptions that meet USEPA particulate matter standards or is a USEPA-certified wood burner or is a pellet-fueled wood burner..

SCAQMD Rule 481 applies to all spray painting and spray coating operations and equipment. The rule states that a person shall not use or operate any spray painting or spray coating equipment unless one of the following conditions is met:

1. The spray coating equipment is operated inside a control enclosure, which is approved by the Executive Officer. Any control enclosure for which an application for permit for new construction, alteration, or change of ownership or location is submitted after the date of adoption of this rule shall be exhausted only through filters at a design face velocity not less than 100 feet per minute nor greater than 300 feet per minute, or through a water wash system designed to be equally effective for the purpose of air pollution control.
2. Coatings are applied with high-volume low-pressure, electrostatic and/or airless spray equipment.
3. An alternative method of coating application or control is used which has effectiveness equal to or greater than the equipment specified in the rule.

SCAQMD Rule 1108 governs the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the South Coast Air Basin. This rule would regulate the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the project must comply with SCAQMD Rule 1108.

SCAQMD Rule 1113 governs the sale, use, and manufacturing of architectural coating and limits the VOC content in paints and paint solvents. This rule regulates the VOC content of paints available

during construction. Therefore, all paints and solvents used during construction and operation of the project must comply with SCAQMD Rule 1113.

SCAQMD Rule 1143 governs the manufacture, sale and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

SCAQMD Rule 1186 limits the presence of fugitive dust on paved and unpaved roads and sets certification protocols and requirements for street sweepers that are under contract to provide sweeping services to any federal, state, county, agency or special district such as water, air, sanitation, transit, or school district.

SCAQMD Rule 1303 governs the permitting of re-located or new major emission sources, requiring Best Available Control Measures and setting significance limits for PM_{10} among other pollutants.

SCAQMD Rule 1401, New Source Review of Toxic Air Contaminants, specifies limits for maximum individual cancer risk, cancer burden, and non-cancer acute and chronic hazard index from new permit units, relocations, or modifications to existing permit units, which emit toxic air contaminants.

SCAQMD Rule 1415, Reduction of Refrigerant Emissions from Stationary Air Conditioning Systems. The SCAQMD originally adopted Rule 1415 to reduce ozone-depleting refrigerant emissions from stationary, non-residential air conditioning (comfort cooling) and refrigeration systems with full charge capacity of greater than 50 pounds, and using Class I and Class II refrigerants. Recently, the SCAQMD amended Rule 1415 to include high-global warming potential refrigerants. Further, the rule now applies only to air conditioning systems with full charge capacity of greater than 50 pounds of refrigerant.

SCAQMD Rule 2202, On-Road Motor Vehicle Mitigation Options, is to provide employers with a menu of options to reduce mobile source emissions generated from employee commutes, to comply with federal and state Clean Air Act requirements, Health & Safety Code Section 40458, and Section 182(d)(1)(B) of the federal Clean Air Act. It applies to any employer who employs 250 or more employees on a full or part-time basis at a worksite for a consecutive six-month period calculated as a monthly average.

1.7.2 - Other

During operation, the project is required to comply with Title 24 of the California Code of Regulations established by the Energy Commission regarding energy conservation standards. The project is also required to comply with the California Green Building Standards.

Title 24. California Code of Regulations Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. All buildings for which an application for a building permit is submitted on or after January 1, 2011 must follow the 2008 standards. The upcoming standards are anticipated in 2013. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases greenhouse gas emissions.

California Green Building Standards. On January 12, 2010, the State Building Standards Commission unanimously adopted updates to the California Green Building Standards Code, which went into effect on January 1, 2011. The Code is a comprehensive and uniform regulatory code for all residential, commercial and school buildings.

The California Green Building Standards Code does not prevent a local jurisdiction from adopting a more stringent code as state law provides methods for local enhancements. The Code recognizes that many jurisdictions have developed existing construction and demolition ordinances, and defers to them as the ruling guidance provided they provide a minimum 50-percent diversion requirement. The code also provides exemptions for areas not served by construction and demolition recycling infrastructure. State building code provides the minimum standard that buildings need to meet in order to be certified for occupancy. Enforcement is generally through the local building official.

The California Green Building Standards Code (code section in parentheses) requires:

- **Short-term bicycle parking.** If a commercial project is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of visitor motorized vehicle parking capacity, with a minimum of one two-bike capacity rack (5.106.4.1).
- **Long-term bicycle parking.** For buildings with over 10 tenant-occupants, provide secure bicycle parking for 5 percent of tenant-occupied motorized vehicle parking capacity, with a minimum of one space (5.106.4.2).
- **Designated parking.** Provide designated parking in commercial projects for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Table 5.106.6.2 (5.106.5.2).
- **Recycling by Occupants.** Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of nonhazardous materials for recycling.
- **Construction waste.** A minimum 50-percent diversion of construction and demolition waste from landfills, increasing voluntarily to 65 and 75 percent for new homes and 80-percent for

commercial projects. All (100 percent) of trees, stumps, rocks and associated vegetation and soils resulting from land clearing shall be reused or recycled.

- **Wastewater reduction.** Each building shall reduce the generation of wastewater by one of the following methods:
  1. The installation of water-conserving fixtures or
  2. Using nonpotable water systems (5.303.4).
- **Water use savings.** 20-percent mandatory reduction in indoor water use with voluntary goal standards for 30, 35, and 40-percent reductions.
- **Water meters.** Separate water meters for buildings in excess of 50,000 square feet or buildings projected to consume more than 1,000 gallons per day.
- **Irrigation efficiency.** Moisture-sensing irrigation systems for larger landscaped areas.
- **Materials pollution control.** Low-pollutant emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard.
- **Building commissioning.** Mandatory inspections of energy systems (i.e. heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies.
- **City of Ontario.** The project is part of The Ontario Plan, the blueprint adopted by the city in guiding its future development. The environmental impact report prepared by the city for the Ontario Plan contained a number of mitigation measures that are incorporated herein (City of Ontario 2009). These mitigation measures are as follows.

Impact 5.3-1 Goals and policies are included in The Policy Plan that would facilitate continued City cooperation with the SCAQMD and SCAG to achieve regional air quality improvement goals, promotion of energy conservation design and development techniques, encouragement of alternative transportation modes, and implementation of transportation demand management strategies. However, no mitigation measures are available that would reduce impacts associated with consistency with the AQMP.

Impact 5.3-2 The City of Ontario Building Department shall require that all new construction projects incorporate all feasible mitigation measures to reduce air quality emissions. Potential measures shall be incorporated as conditions of approval for a project and may include:

- Requiring fugitive dust control measures that exceed South Coast Air Quality Management District's Rule 403, such as:
  - Requiring use of nontoxic soil stabilizers to reduce wind erosion.
  - Applying water every four hours to active soil-disturbing activities.

- Tarping and/or maintaining a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Using construction equipment rated by the United States Environmental Protection Agency as having Tier 3 or higher exhaust emission limits.
- Ensuring construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limiting nonessential idling of construction equipment to no more than five consecutive minutes.
- Using Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufactures can be found on the South Coast Air Quality Management District's website at http://www.aqmd.gov/prdas/brochures/Super-Compliant_AIM.pdf

Impact 5.3-3 The City of Ontario shall evaluate new development proposals within the City and require all developments to include access or linkages to alternative modes of transportation, such as transit stops, bike paths, and/or pedestrian paths (e.g., sidewalks).

Impact 5.3-5 The City of Ontario shall evaluate new development proposals within the City for potential incompatibilities with regard to the California Air Resources Board's Air Quality and Land Use Handbook: A Community Health Perspective (April 2005). New development that is inconsistent with the recommended buffer distances shall only be approved if all feasible mitigation measures, such as high efficiency Minimum Efficiency Reporting Value filters have been incorporated into the project design to protect future sensitive receptors from harmful concentrations of air pollutants as a result of proximity to existing air pollution sources

Impact 5.3-6 The existing Agricultural Overlay District would require notification of new residents of the potential odors generated from adjacent agricultural land uses. No feasible mitigation measures are available to reduce impacts associated with locating sensitive uses adjacent to existing livestock operations in the New Model Colony.

SECTION 2: LOCAL AND REGIONAL ENVIRONMENTAL SETTING

2.1 - Existing Physical Setting

2.1.1 - Local Climate

The project is located in the City of Ontario, California in San Bernardino County and is within the South Coast Air Basin (basin). To the west of the basin is the Pacific Ocean. To the north and east of the basin are the San Gabriel, San Bernardino, and San Jacinto mountains, while the southern limit of the basin is the San Diego County line. The basin consists of Orange County, all of Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County (see figure, source: CARB 2009a). The air quality in the basin is impacted by dominant airflows, topography, atmospheric inversions, location, season, and time of day.

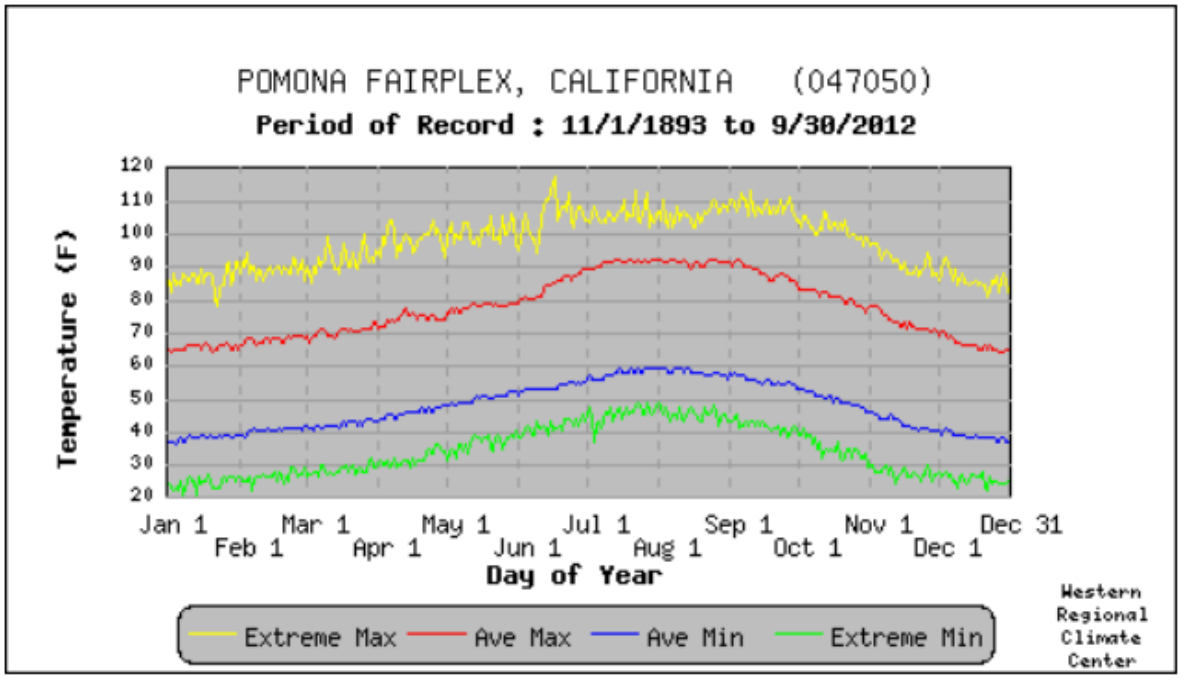
Dominant airflows provide the driving mechanism for transport and dispersion of air pollution. The mountains surrounding the region form natural horizontal barriers to the dispersion of air contaminants. Air pollution created in the coastal areas and around the Los Angeles area is transported inland until it reaches the mountains where the combination of mountains and inversion layers generally prevent further dispersion. This poor ventilation results in a gradual degradation of air quality from the coastal areas to inland areas. Air stagnation may occur during the early evening and early morning periods of transition between day and nighttime flows. The region also experiences periods of hot, dry winds from the desert, known as Santa Ana winds. If the Santa Ana winds are strong, they can surpass the sea breeze, which blows from the ocean to the land, and carry the suspended dust and pollutants out to the ocean. If the winds are weak, they are opposed by the sea breeze and cause stagnation, resulting in high pollution events. The primary wind directions near the project site are from the west and west-northwest as shown in the wind rose in Exhibit 4 from the SCAQMD Pomona air monitoring station.

Temperature inversions limit the vertical depth through which pollution can be mixed. Among the most common temperature inversions in the basin are radiation inversions, which form on clear winter nights when cold air off mountains sink to the valley floor while the air aloft over the valley remains warm. These inversions, in conjunction with calm winds, trap pollutants near the source. Other types of temperature inversions that affect the basin include marine, subsidence, and high-pressure inversions. Summers often have periods of hazy visibility and occasionally unhealthful air, while air quality impacts in the winter tend to be localized. Higher temperatures and sunshine can

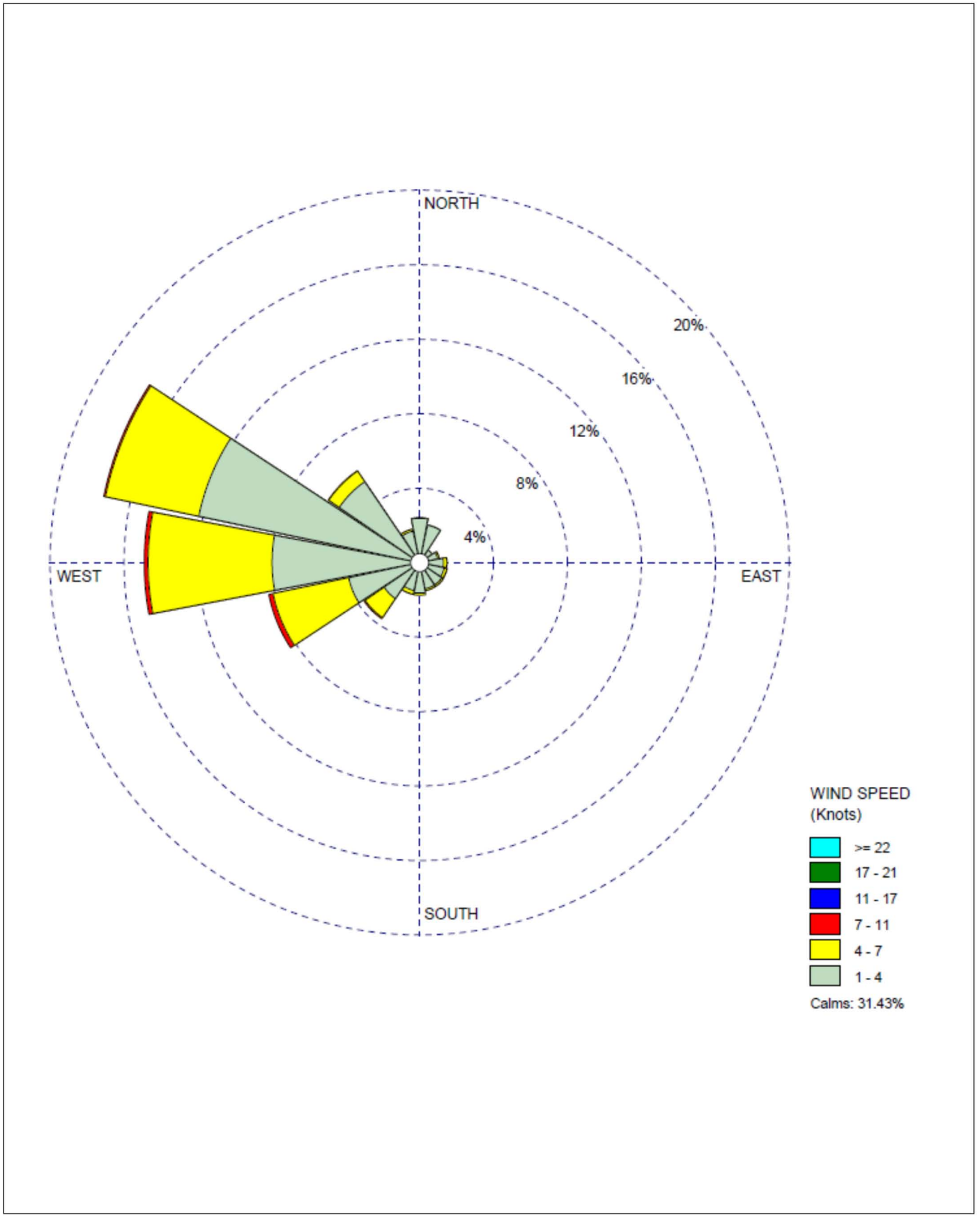
contribute to air pollutant formation, particularly ozone. Impacts of ozone are discussed in the impact sections of this analysis.

The annual average temperature varies little throughout much of the basin (°F). The average daily minimum average temperatures in the area range from around 40's (in degrees Fahrenheit) in the winter to the high 50's in the summer while the daily average maximum temperatures range from the mid-60's in winter to the low 90's in summer as shown in Figure 1. The majority of the annual rainfall in the area occurs between December and March. The average annual precipitation in the area is approximately 17 inches as shown in Figure 2.

Figure 1: Daily Temperature Averages and Extremes - Pomona Fairplex



Source: Western Regional Climate Center 2013.

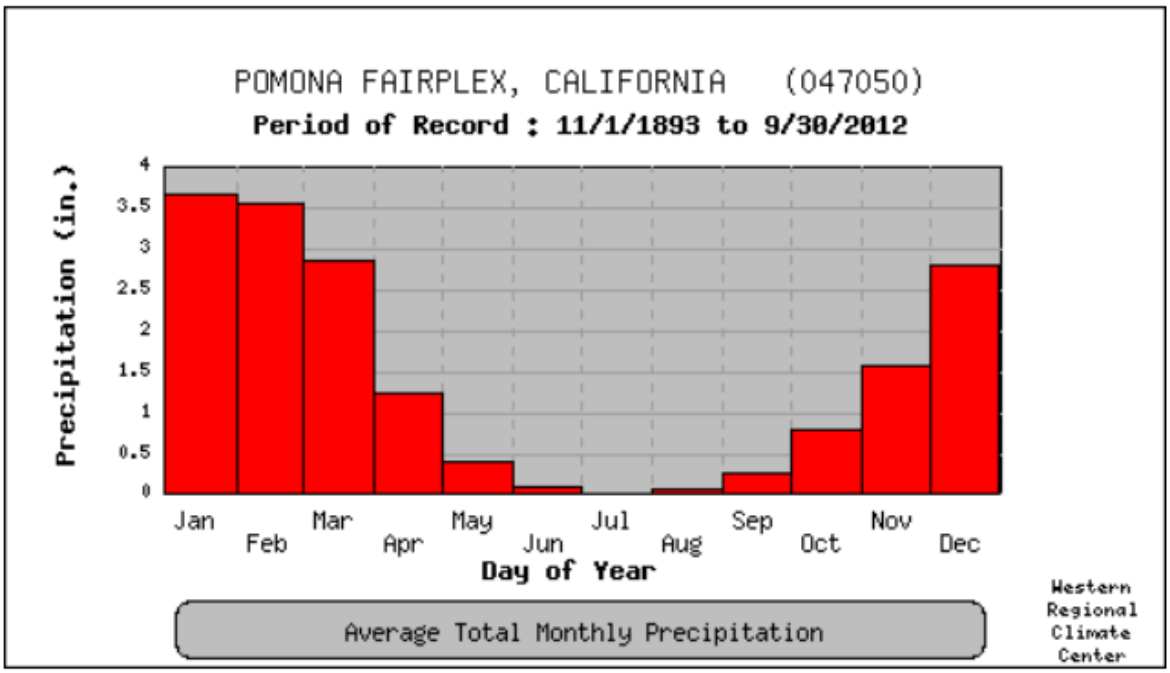


Source: Michael Brandman Associates, 2013.

Exhibit 4
Wind Rose at the SCAQMD Pomona Station

Michael Brandman Associates

Figure 2: Monthly Average Total Precipitation - Pomona Fairplex



Source: Western Regional Climate Center 2013.

2.1.2 - Local Air Quality

Air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These pollutants are known as criteria air pollutants and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources such as carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_X), sulfur oxides (SO_X), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb). VOC and NO_X are also criteria pollutant precursors and combine to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants. Both coarse and fine inhalable particulate matter can also be formed in the atmosphere due to chemical reactions involving NO_X, VOC, and SO_X.

The local air quality can be evaluated by reviewing relevant air pollution concentrations near the project area. For evaluation purposes, the SCAQMD has divided the basin into 36 Source Receptor Areas within the Basin operating monitoring stations in most of the areas. These Source Receptor Areas are designated to provide a general representation of the local meteorological, terrain, and air quality conditions within the particular geographical area. The project is located in Source Receptor Area 33, Southwest San Bernardino Valley. SCAQMD currently operates an air monitoring station in Source Receptor Area 33 in Ontario. However, only particulate matter (PM_{10} and $PM_{2.5}$) are monitored at this location. These monitoring data were supplemented by air monitoring data (ozone,

nitrogen dioxide, and carbon dioxide) from the SCAQMD air monitoring station in Pomona, 10 miles northwest from the project and sulfur dioxide from the Fontana-Arrow monitoring station, 9 miles north from the project.

Table 2 summarizes 2009 through 2011 published monitoring data, which is the most recent 3-year period available. The data shows that during the past few years, the project area has exceeded the ozone, PM_{10}, and $PM_{2.5}$ standards.

Table 2: Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2009	2010	2011
Ozone	1 Hour	Max 1 Hour (ppm)	0.138	0.115	0.119
		Days > State Standard (0.09 ppm)	25	9	15
	8 Hour	Max 8 Hour (ppm)	0.099	0.082	0.096
		Days > State Standard (0.07 ppm)	37	12	24
		Days > National Standard (0.075 ppm)	21	4	16
Carbon monoxide	1 Hour*	Max 1 Hour (ppm)	2.61	2.57	2.46
		Days > State Standard (20 ppm)	0	0	0
		Days > National Standard (35 ppm)	0	0	0
	8 Hour	Max 8 Hour (ppm)	1.83	1.80	1.72
		Days > State Standard (9.0 ppm)	0	0	0
		Days > National Standard (9 ppm)	0	0	0
Nitrogen dioxide	Annual*	Annual Average (ppm)	0.027	0.026	0.025
	1 Hour*	98^{th} percentile (ppm)	0.080	0.073	0.067
	1 Hour	Max 1 Hour (ppm)	0.102	0.097	0.087
		Days > State Standard (0.18 ppm)	0	0	0
Sulfur dioxide	Annual	Annual Average (ppm)	0.000	ID	0000
	24 Hour	Max 24 Hour (ppm)	0.002	0.002	0.002
		Days > State Standard (0.04 ppm)	0	0	0
Inhalable coarse particles (PM_{10})	Annual	Annual Average ($\mu g/m^3$)	35.0	32.0	30.8
	24 hour	24 Hour ($\mu g/m^3$)	70.0	87.0	70.0
		Est. Days > State Standard (50 $\mu g/m^3$)	9	4	3
		Days > National Standard (150 $\mu g/m^3$)	0	0	0

Table 2 (cont.): Air Quality Monitoring Summary

Air Pollutant	Averaging Time	Item	2009	2010	2011
Fine particulate matter ($PM_{2.5}$)	Annual	Annual Average ($\mu g/m^3$)	14.6	12.9	13.2
	24 Hour	24 Hour ($\mu g/m^3$)	46.9	46.1	52.9
		Days > National Standard (35 $\mu g/m^3$)	3	1	2

Abbreviations:
> = exceed ppm = parts per million $\mu g/m^3$ = micrograms per cubic meter
ID = insufficient data ND = no data max = maximum Est. = estimated
State Standard = California Ambient Air Quality Standard
National Standard = National Ambient Air Quality Standard
Sources: California Air Resources Board 2013, from stations in Ontario, Fontana, and Pomona

2.1.3 - Air Quality Improvement in the South Coast Air Basin

The 2012 Air Quality Management Plan states, "The remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs" (SCAQMD 2012a). As shown in Exhibit 5, ozone, NO_X, VOC, and CO have been decreasing in the Basin since 1975 and are projected to continue to decrease through 2020 (CARB 2009a). These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the Basin continue to increase, NO_X and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy.

Exhibit 5 also displays ozone contour maps, which show that the number of days exceeding the national 8-hour standard has decreased between 1997 and 2007. In the 2007 period, there was an overall decrease in exceedance days compared with the 1997 period.

As shown in

Exhibit 6, direct emissions of PM_{10} have been increasing in the Basin and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions. The overall trends of particulate matter concentrations in the air (not emissions) show an overall improvement since 1975.

2.1.4 - Attainment Status

The EPA and the ARB designate air basins where ambient air quality standards are exceeded as "nonattainment" areas. If standards are met, the area is designated as an "attainment" area. If there is inadequate or inconclusive data to make a definitive attainment designation, they are considered "unclassified." National nonattainment areas are further designated as marginal, moderate, serious,

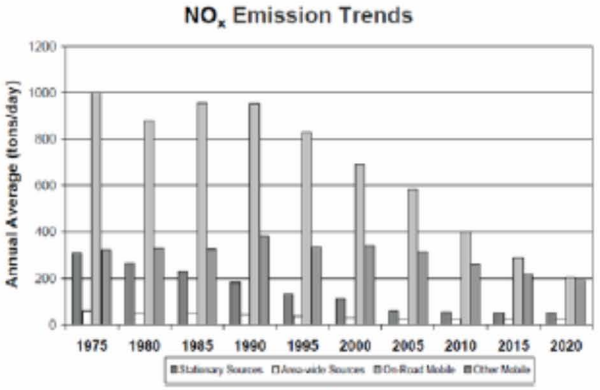
severe, or extreme as a function of deviation from standards. Each standard has a different definition, or 'form' of what constitutes attainment, based on specific air quality statistics. For example, the Federal 8-hour CO standard is not to be exceeded more than once per year; therefore, an area is in attainment of the CO standard if no more than one 8-hour ambient air monitoring values exceeds the threshold per year. In contrast, the Federal annual $PM_{2.5}$ standard is met if the three-year average of the annual average $PM_{2.5}$ concentration is less than or equal to the standard.

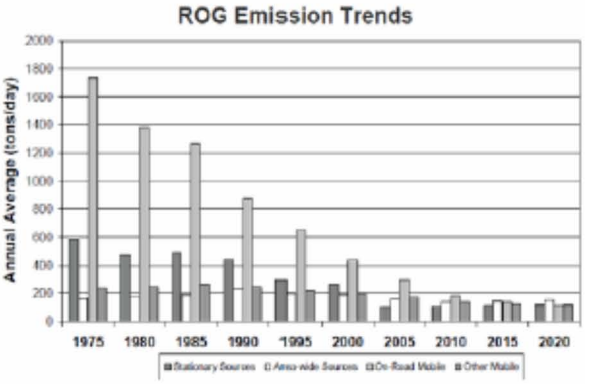
The current attainment designations for the Basin are shown in Table 3. The Basin is designated as nonattainment for the state and federal ozone, PM_{10}, and $PM_{2.5}$, standards. The Basin is also in nonattainment for the state nitrogen dioxide annual standard, based on the 2006 - 2008 data. The Los Angeles County portion of the Basin is in nonattainment for lead; however, the project area is in attainment for lead.

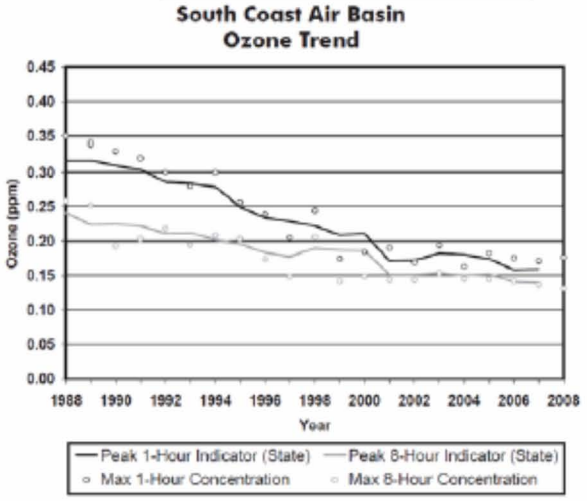
Table 3: South Coast Air Basin Attainment Status

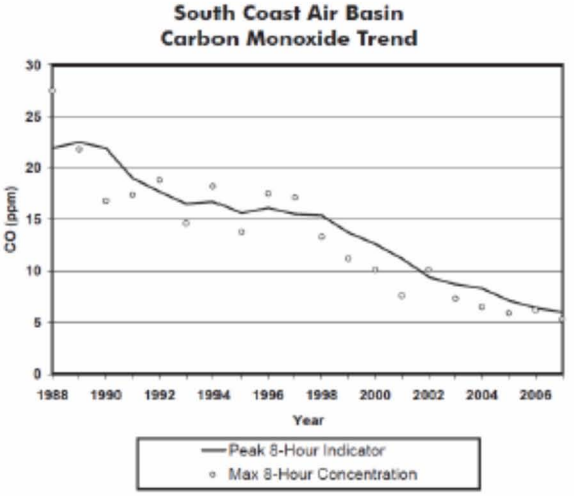
Pollutant	State Status	National Status
Ozone	Nonattainment	Nonattainment
Carbon monoxide	Attainment	Maintenance - Serious
Nitrogen dioxide (annual)	Nonattainment	Attainment
Nitrogen dioxide (1-hour)	Attainment	Maintenance
Sulfur dioxide	Attainment	Attainment
PM_{10}	Nonattainment	Nonattainment - Serious
$PM_{2.5}$	Nonattainment	Nonattainment
Lead (Los Angeles County)	Nonattainment	Nonattainment
Lead (other parts of Basin, including the project area)	Attainment	Attainment
Source of State status: California Air Resources Board 2011a. Source of National status: U.S. Environmental Protection Agency 2012.		

On July 20, 2012, the CARB released a Notice of Public Comment Period on Proposed Amendments to the Area Designations for State Ambient Air Quality Standards as well as the Initial Statement of Reasons for Rulemaking: Proposed 2012 Amendments to Area Designations for State Ambient Air Quality Standards for public comment (CARB 2012). There are no proposed changes to the attainment status presented in the table above.

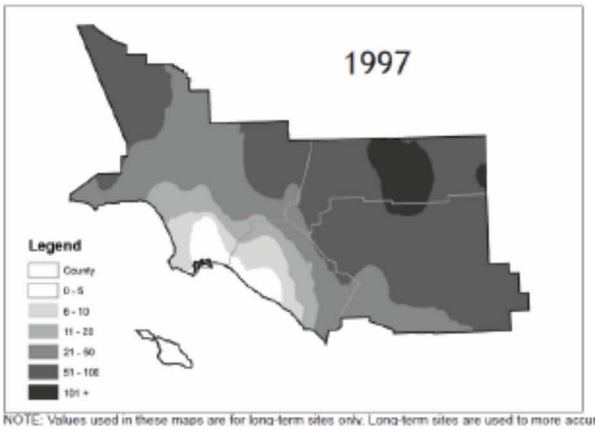


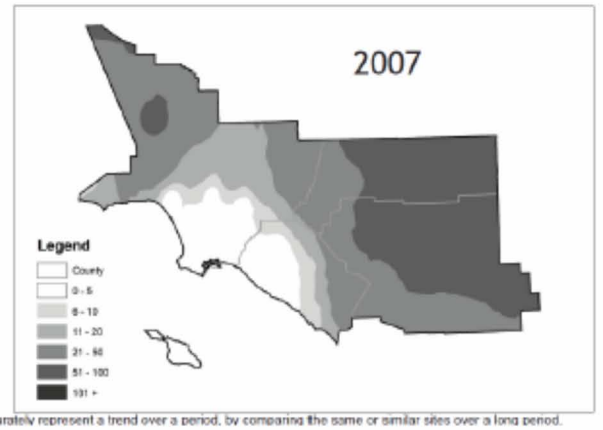






Ozone Contour Maps - 3-year Average of National 8-Hour Exceedance Days

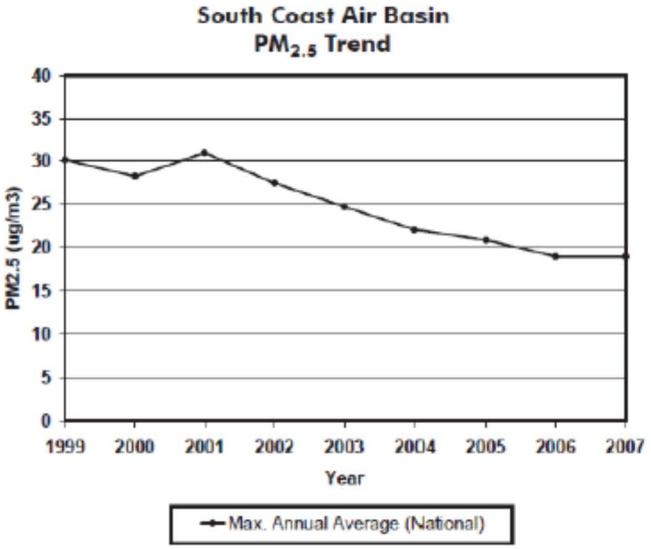


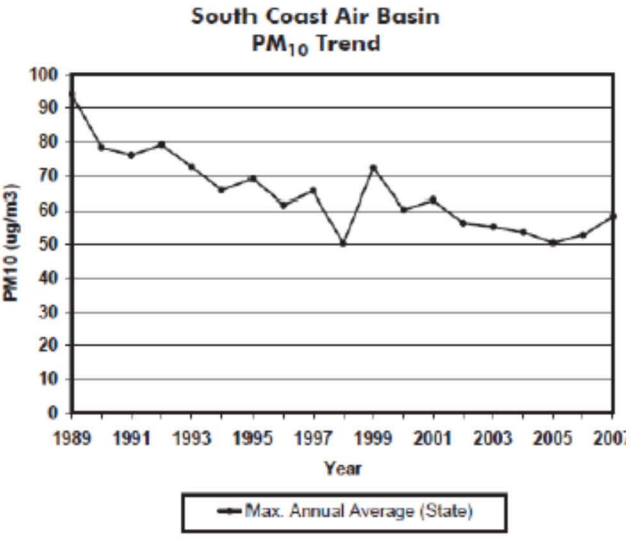


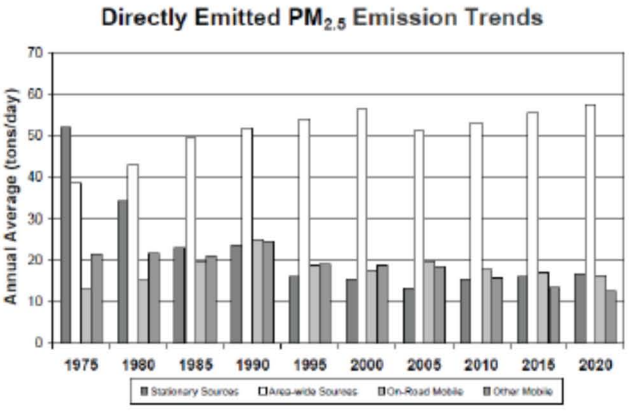
NOTE: Values used in these maps are for long-term sites only. Long-term sites are used to more accurately represent a trend over a period, by comparing the same or similar sites over a long period.

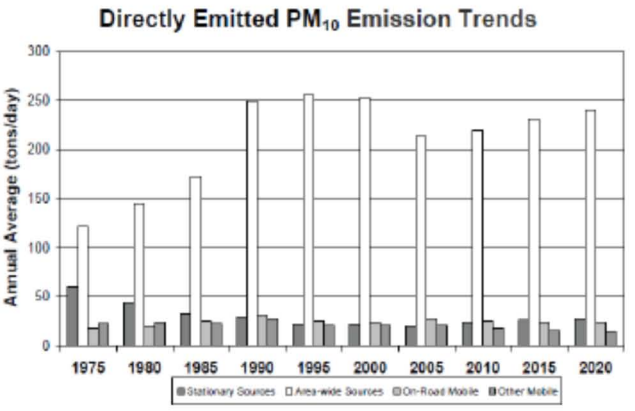
Note: ROG (reactive organic gases) and VOC (volatile organic compounds) are used interchangeably in this analysis
Source: California Air Resources Board, California Almanac

Exhibit 5
Nox, VOC, and Ozone
Trends in South Coast Air Basin









Source: California Air Resources Board, California Almanac of Emissions and Air Quality, 2009 Edition

Michael Brandman Associates

Exhibit 6
Particulate Matter Trends in South Coast Air Basin

2.1.5 - Toxic Air Contaminants

A toxic air contaminant (TAC) is defined as an air pollutant that may cause or contribute to an increase in mortality or serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations. The public's exposure to toxic air contaminants (TACs) is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health. The Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the federal Clean Air Act (42 United Sates code Section 7412[b]) is a toxic air contaminant. Under state law, the California Environmental Protection Agency (EPA), acting through the California Air Resources Board (CARB), is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or to an increase in serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. CARB has, to date, established formal control measures for 11 TACs, all of which are identified as having no safe threshold.

During the last decade, the SCAQMD carried out a number of extensive studies aimed at quantifying the distribution of TACs and their health risk impacts throughout the basin. These studies, referred to as the Multiple Air Toxics Exposure Study (MATES) (SCAQMD 2008a), consisted of several elements including air monitoring, emission inventory, and air dispersion modeling activities to estimate cancer risks from exposure to air toxics. The MATESIII study estimated that the overall cancer risk to the population of the basin averaged about 1,200 additional cancer risks in a population of one million individuals that are exposed over a 70-year lifetime[1]. The highest cancer risks were found in the port areas of Los Angeles and Long Beach where the estimated risks exceeded 3,000 in a million. About 94 percent of the risk is attributed to mobile sources such as motor vehicles and about 6 percent to stationary sources such as industrial sources, gas stations, dry cleaners, and chrome

[1] The cancer risks estimated in the MATES studies assume that future emissions of TACs remain the same over the next 70-years as those estimated in 2005 when the TAC emission inventory was created for use in the MATES study. Both the SCAQMD and the CARB have implemented extensive TAC emission reduction programs that will assist in reducing the future risk levels shown in the MATES studies.

plating operations. Further, diesel exhaust is a major contributor to air toxic risk, accounting for about 84 percent of the total estimated cancer risk. The average cancer risk in the project area is about 1,097 in a million, slightly lower than the basin-wide average.

Several studies indicate that diesel PM poses the greatest health risk among the TACs listed above. A 10-year research program (CARB 1998) demonstrated that diesel PM from diesel-fueled engines is a human carcinogen and that chronic (long-term) inhalation exposure to diesel PM poses a chronic health risk. In addition to increasing the risk of lung cancer, exposure to diesel exhaust can have other health effects. Diesel exhaust can irritate the eyes, nose, throat, and lungs, and it can cause coughs, headaches, lightheadedness, and nausea. Diesel exhaust is a major source of fine particulate pollution as well, and studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Within the South Coast Air Basin, in addition to diesel PM, there are emissions of benzene, formaldehyde, acetaldehyde, naphthalene, ethylbenzene, acrolein, toluene, hexane, propylene, and xylene from a variety of sources located within the Basin that contribute to health risks.

2.2 - Regulatory Setting

The development of the Grand Park Specific Plan has the potential to release gaseous criteria pollutants and dust into the ambient air and therefore comes under the ambient air quality standards promulgated at the local, state, and federal levels. Air pollutants are regulated at the national, state, and air basin level; each agency has a different level of regulatory responsibility. The United States Environmental Protection Agency (EPA) regulates at the national level. The California Air Resources Board (CARB) regulates at the state level. The South Coast Air Quality Management District (SCAQMD) regulates at the air basin level.

2.2.1 - National and State

The EPA is responsible for national and interstate air pollution issues and policies. The EPA sets national vehicle and stationary source emission standards, oversees approval of all State Implementation Plans, provides research and guidance for air pollution programs, and sets National Ambient Air Quality Standards, also known as federal standards. There are federal standards for six common air pollutants, called criteria air pollutants, which were identified from provisions of the Clean Air Act of 1970. The criteria pollutants are:

- Ozone
- Nitrogen dioxide
- Lead
- Particulate matter (PM_{10} and $PM_{2.5}$)
- Carbon monoxide (CO)
- Sulfur dioxide

The federal standards were set to protect public health, including that of sensitive individuals; thus, the standards continue to change as more medical research is available regarding the health effects of

the criteria pollutants. Primary federal standards are the levels of air quality necessary, with an adequate margin of safety, to protect the public health (CARB 2011a).

A State Implementation Plan is a document prepared by each state describing existing air quality conditions and measures that will be followed to attain and maintain federal standards. The State Implementation Plan for the State of California is administered by the ARB, which has overall responsibility for statewide air quality maintenance and air pollution prevention. California's State Implementation Plan incorporates individual federal attainment plans for regional air districts-- air district prepares their federal attainment plan, which sent to ARB to be approved and incorporated into the California State Implementation Plan. Federal attainment plans include the technical foundation for understanding air quality (e.g., emission inventories and air quality monitoring), control measures and strategies, and enforcement mechanisms.

The ARB also administers California Ambient Air Quality Standards (state standards) for the 10 air pollutants designated in the California Clean Air Act. The 10 state air pollutants are the six federal standards listed above as well visibility-reducing particulates, hydrogen sulfide, sulfates, and vinyl chloride. The federal and State ambient air quality standards, relevant effects, properties, and sources of the pollutants are summarized in Table 4. For additional health effects, please refer to Appendix C, an excerpt from the SCAQMD's Draft 2012 Air Quality Management Plan.

Table 4: Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Ozone	1 Hour	0.09 ppm	—	Irritate respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage.	Ozone is a photochemical pollutant as it is not emitted directly into the atmosphere, but is formed by a complex series of chemical reactions between volatile organic compounds (VOC), NO_X, and sunlight. Ozone is a regional pollutant that is generated over a large area and is transported and spread by the wind.	Ozone is a secondary pollutant; thus, it is not emitted directly into the lower level of the atmosphere. The primary sources of ozone precursors (VOC and NO_X) are mobile sources (on-road and off-road vehicle exhaust).
	8 Hour	0.070 ppm	0.075 ppm			
Carbon monoxide (CO)	1 Hour	20 ppm	35 ppm	Ranges depending on exposure: slight headaches; nausea; aggravation of angina pectoris (chest pain) and other aspects of coronary heart disease; decreased exercise tolerance in persons with peripheral vascular disease and lung disease; impairment of central nervous system functions; possible increased risk to fetuses; death.	CO is a colorless, odorless, toxic gas. CO is somewhat soluble in water; therefore, rainfall and fog can suppress CO conditions. CO enters the body through the lungs, dissolves in the blood, replaces oxygen as an attachment to hemoglobin, and reduces available oxygen in the blood.	CO is produced by incomplete combustion of carbon-containing fuels (e.g., gasoline, diesel fuel, and biomass). Sources include motor vehicle exhaust, industrial processes (metals processing and chemical manufacturing), residential wood burning, and natural sources.
	8 Hour	9.0 ppm	9 ppm			
Nitrogen dioxide [b] (NO_2)	1 Hour	0.18 ppm	0.100 ppm	Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; contribution to atmospheric discoloration; increased visits to hospital for respiratory illnesses.	During combustion of fossil fuels, oxygen reacts with nitrogen to produce nitrogen oxides - NO_X (NO, NO_2, NO_3, N_2O, N_2O_3, N_2O_4, and N_2O_5). NO_X is a precursor to ozone, PM_{10}, and $PM_{2.5}$ formation. NO_X can react with compounds to form nitric acid and related small particles and result in PM related health effects.	NO_X is produced in motor vehicle internal combustion engines and fossil fuel-fired electric utility and industrial boilers. NO_2 concentrations near major roads can be 30 to 100 percent higher than those at monitoring stations.
	Annual	0.030 ppm	0.053 ppm			

Table 4 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfur dioxide [c] (SO_2)	1 Hour	0.25 ppm	0.075 ppm	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient sulfur dioxide levels. It is not clear whether the two pollutants act synergistically or one pollutant alone is the predominant factor.	Sulfur dioxide is a colorless, pungent gas. At levels greater than 0.5 ppm, the gas has a strong odor, similar to rotten eggs. Sulfur oxides (SO_X) include sulfur dioxide and sulfur trioxide. Sulfuric acid is formed from sulfur dioxide, which can lead to acid deposition and can harm natural resources and materials. Although sulfur dioxide concentrations have been reduced to levels well below state and federal standards, further reductions are desirable because sulfur dioxide is a precursor to sulfate and PM_{10}.	Human caused sources include fossil-fuel combustion, mineral ore processing, and chemical manufacturing. Volcanic emissions are a natural source of sulfur dioxide. The gas can also be produced in the air by dimethylsulfide and hydrogen sulfide. Sulfur dioxide is removed from the air by dissolution in water, chemical reactions, and transfer to soils and ice caps. The sulfur dioxide levels in the State are well below the maximum standards.
	3 Hour	—	0.5 ppm			
	24 Hour	0.04 ppm	0.14 (for certain areas)			
	Annual	—	0.030 ppm (for certain areas)			
Particulate matter (PM_{10})	24 hour	50 $\mu g/m^3$	150 $\mu g/m^3$	- Short-term exposure (hours/days): irrigation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias. - Long-term exposure: reduced lung function; chronic bronchitis; changes in lung morphology; death.	Suspended particulate matter is a mixture of small particles that consist of dry solid fragments, droplets of water, or solid cores with liquid coatings. The particles vary in shape, size, and composition. PM_{10} refers to particulate matter that is between 2.5 and 10 microns in diameter, (1 micron is one-millionth of a meter). $PM_{2.5}$ refers to particulate matter that is 2.5 microns or less in diameter.	Stationary sources include fuel combustion for electrical utilities, residential space heating, and industrial processes; construction and demolition; metals, minerals, and petrochemicals; wood products processing; mills and elevators used in agriculture; erosion from tilled lands; waste disposal, and recycling. Mobile or transportation-related sources are from vehicle exhaust and road dust.
	Mean	20 $\mu g/m^3$	—			
Particulate matter ($PM_{2.5}$)	24 Hour	—	35 $\mu g/m^3$			
	Annual	12 $\mu g/m^3$	15 $\mu g/m^3$			
Visibility reducing particles	8 Hour	See note below [d]				

Table 4 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Sulfates	24 Hour	25 µg/m^3	—	Decrease in ventilatory function; aggravation of asthmatic symptoms; aggravation of cardio-pulmonary disease; vegetation damage; degradation of visibility; property damage.	The sulfate ion is a polyatomic anion with the empirical formula SO_4^{2-}. Sulfates occur in combination with metal and/or hydrogen ions. Many sulfates are soluble in water.	Sulfates are particulates formed through the photochemical oxidation of sulfur dioxide. In California, the main source of sulfur compounds is combustion of gasoline and diesel fuel.
Lead [e]	30-day	1.5 µg/m^3	—	Lead accumulates in bones, soft tissue, and blood and can affect the kidneys, liver, and nervous system. It can cause impairment of blood formation and nerve conduction, behavior disorders, mental retardation, neurological impairment, learning deficiencies, and low IQs.	Lead is a solid heavy metal that can exist in air pollution as an aerosol particle component. Leaded gasoline was used in motor vehicles until around 1970. Lead concentrations have not exceeded state or federal standards at any monitoring station since 1982.	Lead ore crushing, lead-ore smelting, and battery manufacturing are currently the largest sources of lead in the atmosphere in the United States. Other sources include dust from soils contaminated with lead-based paint, solid waste disposal, and crustal physical weathering.
	Quarter	—	1.5 µg/m^3			
	Rolling 3-month average	—	0.15 µg/m^3			
Vinyl chloride [e]	24 Hour	0.01 ppm	—	Short-term exposure to high levels of vinyl chloride in the air causes central nervous system effects, such as dizziness, drowsiness, and headaches. Epidemiological studies of occupationally exposed workers have linked vinyl chloride exposure to development of a rare cancer, liver angiosarcoma, and have suggested a relationship between exposure and lung and brain cancers.	Vinyl chloride, or chloroethene, is a chlorinated hydrocarbon and a colorless gas with a mild, sweet odor. In 1990, ARB identified vinyl chloride as a toxic air contaminant and estimated a cancer unit risk factor.	Most vinyl chloride is used to make polyvinyl chloride plastic and vinyl products, including pipes, wire and cable coatings, and packaging materials. It can be formed when plastics containing these substances are left to decompose in solid waste landfills. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites.

Table 4 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Hydrogen sulfide	1 Hour	0.03 ppm	—	High levels of hydrogen sulfide can cause immediate respiratory arrest. It can irritate the eyes and respiratory tract and cause headache, nausea, vomiting, and cough. Long exposure can cause pulmonary edema.	Hydrogen sulfide (H_2S) is a flammable, colorless, poisonous gas that smells like rotten eggs.	Manure, storage tanks, ponds, anaerobic lagoons, and land application sites are the primary sources of hydrogen sulfide. Anthropogenic sources include the combustion of sulfur containing fuels (oil and coal).
Volatile organic compounds (VOC)		There are no State or federal standards for VOCs because they are not classified as criteria pollutants.		Although health-based standards have not been established for VOCs, health effects can occur from exposures to high concentrations because of interference with oxygen uptake. In general, concentrations of VOCs are suspected to cause eye, nose, and throat irritation; headaches; loss of coordination; nausea; and damage to the liver, the kidneys, and the central nervous system. Many VOCs have been classified as toxic air contaminants.	Reactive organic gases (ROGs), or VOCs, are defined as any compound of carbon—excluding carbon monoxide, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate—that participates in atmospheric photochemical reactions. Although there are slight differences in the definition of ROGs and VOCs, the two terms are often used interchangeably.	Indoor sources of VOCs include paints, solvents, aerosol sprays, cleansers, tobacco smoke, etc. Outdoor sources of VOCs are from combustion and fuel evaporation. A reduction in VOC emissions reduces certain chemical reactions that contribute to the formulation of ozone. VOCs are transformed into organic aerosols in the atmosphere, which contribute to higher PM_{10} and lower visibility.

Table 4 (cont.): Description of Air Pollutants

Air Pollutant	Averaging Time	California Standard	Federal Standard[a]	Most Relevant Effects from Pollutant Exposure	Properties	Sources
Diesel particulate matter (diesel PM)		There are no ambient air quality standards for diesel PM.		Some short-term (acute) effects of diesel PM exposure include eye, nose, throat, and lung irritation, coughs, headaches, light-headedness, and nausea. Studies have linked elevated particle levels in the air to increased hospital admissions, emergency room visits, asthma attacks, and premature deaths among those suffering from respiratory problems. Human studies on the carcinogenicity of diesel PM demonstrate an increased risk of lung cancer, although the increased risk cannot be clearly attributed to diesel exhaust exposure.	diesel PM is a source of $PM_{2.5}$—diesel particles are typically 2.5 microns and smaller. Diesel exhaust is a complex mixture of thousands of particles and gases that is produced when an engine burns diesel fuel. Organic compounds account for 80 percent of the total particulate matter mass, which consists of compounds such as hydrocarbons and their derivatives, and polycyclic aromatic hydrocarbons and their derivatives. Fifteen polycyclic aromatic hydrocarbons are confirmed carcinogens, a number of which are found in diesel exhaust.	Diesel exhaust is a major source of ambient particulate matter pollution in urban environments. Typically, the main source of diesel PM is from combustion of diesel fuel in diesel-powered engines. Such engines are in on-road vehicles such as diesel trucks, off-road construction vehicles, diesel electrical generators, and various pieces of stationary construction equipment.

Notes:
ppm = parts per million (concentration) $\mu g/m^3$ = micrograms per cubic meter Annual = Annual Arithmetic Mean 30-day = 30-day average Quarter = Calendar quarter

[a] Federal standard refers to the primary national ambient air quality standard, or the levels of air quality necessary, with an adequate margin of safety to protect the public health. All standards listed are primary standards except for 3 Hour SO_2, which is a secondary standard. A secondary standard is the level of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[b] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb (0.100 ppm).

[c] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.

[d] Visibility reducing particles: In 1989, the ARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

[e] The CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

Source of effects: South Coast Air Quality Management District 2003 and 2007a; California Environmental Protection Agency 2002; California Air Resources Board 2009a; U.S. Environmental Protection Agency 2009a and 2010; National Toxicology Program 2011a.
Source of standards: California Air Resources Board 2009a.
Source of properties and sources: U.S. Environmental Protection Agency 2009a; U.S. Environmental Protection Agency 2003; U.S. Environmental Protection Agency 2011a; U.S. Environmental Protection Agency 2009b; National Toxicology Program 2011b.

Several pollutants listed in Table 4 are not addressed in this analysis. Analysis of lead is not included in this report because the project is not anticipated to emit lead. Visibility-reducing particles are not explicitly addressed in this analysis because particulate matter is addressed. The project is not expected to generate or be exposed to vinyl chloride because proposed project uses do not utilize the chemical processes that create this pollutant and there are no such uses in the project vicinity. The proposed project is not expected to cause exposure to hydrogen sulfide because it would not generate hydrogen sulfide in any substantial quantity.

Asbestos

Asbestos is listed as a toxic air contaminant by ARB and as a Hazardous Air Pollutant by the EPA. Asbestos occurs naturally in surface deposits of several types of rock formations. Asbestos most commonly occurs in ultramafic rock that has undergone partial or complete alteration to serpentine rock (serpentinite) and often contains chrysotile asbestos. In addition, another form of asbestos, tremolite, can be found associated with ultramafic rock, particularly near faults. Crushing or breaking these rocks, through construction or other means, can release asbestoform fibers into the air. Asbestos emissions can result from the sale or use of asbestos-containing materials, road surfacing with such materials, grading activities, and surface mining. The risk of disease is dependent upon the intensity and duration of exposure. When inhaled, asbestos fibers may remain in the lungs and with time may be linked to such diseases as asbestosis, lung cancer, and mesothelioma. There is no asbestos in the project area (U.S. Geological Survey 2011).

State of California - CARB

Carl Moyer Memorial Air Quality Standards Attainment Program. Since 1998, the Carl Moyer Memorial Air Quality Standards Attainment Program (Carl Moyer Program) has provided funding to encourage the voluntary purchase of cleaner engines, equipment, and emission reduction technologies. The Carl Moyer Program plays a complementary role to California's regulatory program by funding emission reductions that are surplus, i.e., early and/or in excess of what is required by regulation. The Carl Moyer Program accelerates the turnover of old highly-polluting engines, speeds the commercialization of advanced emission controls, and reduces air pollution impacts on environmental justice communities. Emission reductions achieved through the Carl Moyer Program are an important component of the California State Implementation Plan.

Airborne Toxic Control Measure for Diesel Particulate Matter from Portable Engines Rated at 50 horsepower and Greater. Effective February 19, 2011, each fleet shall comply with weighted reduced particulate matter emission fleet averages by compliance dates listed in the regulation.

ARB Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling adopts new section 2485 within Chapter 10, Article 1, Division 3, title 13 in the California Code of Regulations. The measure limits the idling of diesel vehicles to reduce emissions of toxics and criteria pollutants. The driver of any vehicle subject to this section: (1) shall not idle the vehicle's primary diesel engine for greater than five minutes at any location; and (2) shall not idle a diesel-

fueled auxiliary power system for more than five minutes to power a heater, air conditioner, or any ancillary equipment on the vehicle if it has a sleeper berth and the truck is located within 100 feet of a restricted area (homes and schools).

ARB Final Regulation Order, Requirements to Reduce Idling Emissions from New and In-Use Trucks, requires that new 2008 and subsequent model-year heavy-duty diesel engines be equipped with an engine shutdown system that automatically shuts down the engine after 300 seconds of continuous idling operation once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged. If the parking brake is not engaged, then the engine shutdown system shall shut down the engine after 900 seconds of continuous idling operation once the vehicle is stopped and the transmission is set to "neutral" or "park." Any project trucks manufactured after 2008 would be consistent with this rule, which would ultimately reduce air emissions.

ARB Regulation for In-Use Off-Road Diesel Vehicles. On July 26, 2007, the ARB adopted a regulation to reduce diesel particulate matter and NO_X emissions from in-use (existing) off-road heavy-duty diesel vehicles in California. Such vehicles are used in construction, mining, and industrial operations. The regulation limits idling to no more than five consecutive minutes, requires reporting and labeling, and requires disclosure of the regulation upon vehicle sale. The ARB is enforcing that part of the rule with fines up to $10,000 per day for each vehicle in violation. Performance requirements of the rule are based on a fleet's average NO_X emissions, which can be met by replacing older vehicles with newer, cleaner vehicles or by applying exhaust retrofits. The regulation was amended in 2010 to delay the original timeline of the performance requirements making the first compliance deadline January 1, 2014 for large fleets (over 5,000 horsepower), 2017 for medium fleets (2,501-5,000 horsepower), and 2019 for small fleets (2,500 horsepower or less).

Statewide Truck and Bus Rule. On December 12, 2008, the CARB approved this regulation to reduce emissions from existing on-road diesel trucks and buses operating in California. This regulation applies to all on-road heavy-duty diesel-fueled vehicles with a gross vehicle weight rating greater than 14,000 pounds, agricultural yard trucks with off-road certified engines, and certain diesel fueled shuttle vehicles of any gross vehicle weight rating. Out-of-state trucks and buses that operate in California are also subject. Under the regulation, older, heavier trucks, i.e. those with pre-2000 year engines and a gross vehicle weight rating greater than 26,000 pounds, are required to have installed a particulate matter filter and must be replaced with a 2010 engine between 2015 and 2020, depending on the model year. By 2015, all heavier pre-1994 trucks must be upgraded to 2010 engines and newer trucks are thereafter required to be replaced over the next 8 years. Older, more polluting trucks are required to be replaced first, while trucks that already have relatively clean 2007-2009 engines are not required to be replaced until 2023. Lighter trucks (14,001-26,000 pounds) must adhere to a similar schedule, and will all be replaced by 2020. Furthermore, nearly all trucks that are not required under the Truck and Bus Regulation to be replaced by 2015 are required to be upgraded with a particulate matter filter by that date.

State of California Code Sections

Public Resources Code Section 21151.8 and Education Code Section 17213 prohibit the approval of an environmental impact report or negative declaration for a project involving the purchase of a school site or construction of a new elementary or secondary school unless the following occur:

- Facilities located within a 1/4 mile radius of the proposed site that might reasonably emit hazardous or acutely hazardous air emissions have been identified and;
- It has been determined that the health risks from facilities do not and will not constitute an actual or potential endangerment of public health to persons who attend or are employed at the school or;
- If impacts are identified, mitigation of all chronic or accidental hazardous air emissions must be made prior to school occupancy and a determination of no actual or potential endangerment shall be certified by the governing board.
- If identified impacts cannot be mitigated, the governing board may adopt a statement of overriding considerations if it makes the finding that no suitable alternative sites exist due to a severe shortage of qualifying school site locations.

For a school site located within 500 feet from the edge of a freeway traffic lane or busy traffic corridor, the governing board shall additionally determine through analysis pursuant to paragraph (2) of subdivision (b) of Section 44360 of the Health and Safety Code, based on appropriate air dispersion modeling, and after considering any potential mitigation measures, that the air quality at the proposed site is such that neither short term nor long term exposure poses significant health risks to pupils.

2.2.2 - South Coast Air Quality Management District

The agency for air pollution control for the South Coast Air Basin (basin) is the South Coast Air Quality Management District (SCAQMD). The SCAQMD is responsible for controlling emissions primarily from stationary sources. The SCAQMD maintains air quality monitoring stations throughout the basin. The SCAQMD is also responsible for the following.

Air Quality Management Plans

SCAQMD, in coordination with the Southern California Association of Governments, is also responsible for developing, updating, and implementing the Air Quality Management Plan (AQMP) for the basin. An AQMP is a plan prepared and implemented by an air pollution district for a county or region designated as nonattainment of the federal and/or California ambient air quality standards. The term nonattainment area is used to refer to an air basin where one or more ambient air quality standards are exceeded.

2003 AQMP

One of the purposes of the 2003 AQMP is to lead the basin and portions of the Salton Sea Air Basin under SCAQMD jurisdiction into compliance with the 1-hour ozone and PM_{10} federal standards (South Coast Air Quality Management District 2003). One of the purposes of the 2007 AQMP is to lead the basin into compliance of the federal 8-hour ozone and $PM_{2.5}$ standards.

The 2003 AQMP also replaced the 1997 attainment demonstration for the federal CO standard and provided a basis for a maintenance plan for CO for the future, and updated the maintenance plan for the federal nitrogen dioxide standard that the South Coast Air Basin has met since 1992 (2003 AQMP, page 1-1).

The 2003 AQMP also incorporated new scientific data in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2003 AQMP utilized complex modeling to show that with the control measures, the basin would be in compliance with the federal and state standards for all pollutants by 2010, except for the state ozone and PM_{10} standards and the state ozone and PM_{10} standard after 2010 or by the earliest practicable date, as mandated by the California Health and Safety Code Section 40462. The ARB approved the 2003 AQMP on August 1, 2003. The EPA's adequacy finding on the emissions budgets for conformity determination in the basin was published in the Federal Register (69 FR 15325-15326).

2007 AQMP

The 2007 AQMP was adopted by the SCAQMD on June 1, 2007 (SCAQMD 2007a). On July 13, 2007, the SCAQMD Board adopted the 2007 Final AQMP Transportation Conformity Budgets and directed the Executive Officer to forward them to ARB for its approval and subsequent submittal to the EPA. On September 27, 2007, ARB adopted the State Strategy for the 2007 State Implementation Plan and the 2007 AQMP as part of the State Implementation Plan. On January 15, 2009, the EPA's regional administrator signed a final rule to approve in part and disapprove in part the SCAQMD 2003 1-hour ozone plan and the nitrogen dioxide maintenance plan. The parts of the plan that were approved strengthen the State Implementation Plan. The Clean Air Act does not require the disapproved portions of the plan, and the disapprovals do not start sanctions clocks.

The 2007 AQMP outlines a detailed strategy for meeting the federal health-based standards for $PM_{2.5}$ by 2015 and 8-hour ozone by 2024 while accounting for and accommodating future expected growth. The 2007 AQMP incorporates significant new emissions inventories, ambient measurements, scientific data, control strategies, and air quality modeling. Most of the reductions will be from mobile sources, which are currently responsible for about 75 percent of all smog and particulate forming emissions. The 2007 AQMP includes 37 control measures proposed for adoption by the SCAQMD, including measures to reduce emissions from new commercial and residential developments, more reductions from industrial facilities, and reductions from wood burning fireplaces and restaurant charbroilers.

2012 AQMP

The 2012 AQMP was adopted December 7, 2012 (SCAQMD 2012a). The purpose of the 2012 AQMP for the Basin is to set forth a program that will lead the Basin into compliance with the federal 24-hour $PM_{2.5}$ air quality standard, and to provide an update of the Basin's projections in meeting the federal 8-hour ozone standards. The AQMP will be submitted to the U.S. EPA as the State Implementation Plan (SIP) once it is approved by the SCAQMD Governing Board and the ARB. Specifically, the AQMP will serve as the official SIP submittal for the federal 2006 24-hour $PM_{2.5}$ standard, for which U.S. EPA has established a due date of December 14, 2012. In addition, the AQMP will update specific elements of the previously approved 8-hour ozone SIP: 1) an updated emissions inventory and, 2) new control measures and commitments for emissions reductions to help fulfill the Section 182(e)(5) portion of the 8-hour ozone SIP.

The 2012 AQMP states, "The remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs."

The 2012 AQMP proposes Basin-wide $PM_{2.5}$ measures that will be implemented by the 2014 attainment date, episodic control measures to achieve air quality improvements (would only apply during high $PM_{2.5}$ days), Section 182(e)(5) implementation measures (to maintain progress towards meeting the 2023 8-hour ozone national standard), and transportation control measures. Most of the control measures focus on incentives, outreach, and education.

Proposed $PM_{2.5}$ reduction measures in the 2012 AQMP include the following:

- Further NO_X reductions from RECLAIM
- Further reductions from residential wood burning devices
- Further reductions from open burning
- Emission reductions from under-fired charbroilers
- Further ammonia reductions from livestock waste
- Backstop measures for indirect sources of emissions from ports and port-related sources
- Further criteria pollutant reductions from education, outreach and incentives

There are multiple VOC and NO_X reductions in the 2012 AQMP to attempt to reduce ozone formation, including further VOC reductions from architectural coatings, miscellaneous coatings, adhesives, solvents, lubricants, and mold release products.

The 2012 AQMP also contains proposed mobile source implementation measures for the deployment of zero- and near-zero emission on-road heavy-duty vehicles, locomotives, and cargo handling equipment. There are measures for the deployment of cleaner commercial harborcraft, cleaner ocean-going marine vessels, cleaner off-road equipment, and cleaner aircraft engines.

The 2012 AQMP proposes the following mobile source implementation measures:

- On-road mobile sources:
  - Accelerated penetration of partial zero-emission and zero-emission vehicles and light-heavy and medium-heavy duty vehicles through funding assistance for purchasing the vehicles
  - Accelerated retirement of older light-, medium-, and heavy-duty vehicles through funding incentives
  - Further emission reductions from heavy-duty vehicles serving near-dock railyards through a proposed control measure that requires any cargo container moved between the Ports of Los Angeles and Long Beach to the nearby railyards be moved using zero-emission technologies
- Off-road mobile sources:
  - Extension of the Surplus Off-Road Opt-In for NO_x provision for construction/industrial equipment, which provides funding to repower or replace older Tier 0 and Tier 1 equipment
  - Further emission reductions from freight and passenger locomotives calls for an accelerated use of Tier 4 locomotives in the Basin
  - Further emission reductions from ocean-going marine vessels while at berth
  - Emission reductions from ocean-going marine vessels

The 2012 AQMP also relies upon the Southern California Association of Governments regional transportation strategy, which is contained in the adopted 2012-2035 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS) and the 2011 Federal Transportation Improvement Program, that contains the following sections:

1. Linking regional transportation planning to air quality planning: making sure that the regional transportation plan supports the goals and objectives of the AQMP/SIP.
2. Regional transportation strategy and transportation control measures: the RTP/SCS contains improvements to the regional multimodal transportation system including the following: active transportation (non-motorized transportation - biking and walking); transportation demand management; transportation system management; transit; passenger and high-speed rail; goods movement; aviation and airport ground access; highways; arterials; and operations and maintenance.
3. Reasonably available control measure analysis

SCAQMD Rules

The AQMP for the Basin establishes a program of rules and regulations administered by SCAQMD to obtain attainment of the state and federal standards. The rules and regulations that apply to this project include, but are not limited to, the rules listed in the Standard Conditions section of this report (Section 1.5).

CEQA

The SCAQMD has two roles under CEQA:

- Lead Agency: responsible for preparing environmental analyses for its own projects (adoption of rules, regulations, or plans) or permit projects filed with the SCAQMD where the SCAQMD has primary approval authority over the project.
- Commenting Agency: the SCAQMD reviews and comments on air quality analyses prepared by other public agencies (such as the proposed project).

The SCAQMD also provides guidance and thresholds for CEQA air quality and greenhouse gas analyses. The result of this guidance as well as State regulations to control air pollution is an overall improvement in the Basin, as shown previously in this report.

City of Ontario

In 2010, the City of Ontario adopted The Ontario Plan (TOP) that sets forth the vision, governance, policy plan, priorities, implementation, and tacking that will direct the orderly and sustained future development of the city. The policy plan contains an Environmental Resources Element of which Air Quality is a component. The Air Quality Goal and supporting policies are shown below in Table 5.

Table 5: City of Ontario TOP Air Quality Resources Element

Air Quality Resource	Description
Goal: ER4	Improved indoor and outdoor air quality and reduced locally generated pollutant emissions
Policy ER4-1	*Land Use.* We reduce GHG and other local pollutant emissions through compact, mixed use, and transit-oriented development and development that improves the regional jobs-housing balance.
ER4-2	*Sensitive Land Uses.* We prohibit the future siting of sensitive land uses, within the distances defined by the California Air Resources Board for specific source categories, without sufficient mitigation
ER4-3	*Greenhouse Gases (GHG) Emissions Reductions.* We will reduce GHG emissions in accordance with regional, state and federal regulations.
ER4-4	*Indoor Air Quality.* We will comply with State Green Building Codes relative to indoor air quality
ER4-5	*Transportation.* We promote mass transit and non-motorized mobility options (e.g. walking, biking) to reduce air pollutant emissions.

Table 5 (cont.): City of Ontario TOP Air Quality Resources Element

Air Quality Resource	Description
ER4-6	*Particulate Matter*. We support efforts to reduce particulate matter to meet State and Federal Clean Air Standards.
ER4-7	*Other Agency Collaboration.* We collaborate with other agencies within the South Coast Air Basin to improve regional air quality at the emission source.
ER4-8	*Tree Planting.* We protect healthy trees within the City and plant new trees to increase carbon sequestration and help the regional/local air quality.
Source: The Ontario Plan (City of Ontario 2010)	

SECTION 3: CLIMATE CHANGE SETTING

3.1 - Climate Change

Climate change is a change in the average weather of the earth that is measured by alterations in wind patterns, storms, precipitation, and temperature. These changes are assessed using historical records of temperature changes occurring in the past, such as during previous ice ages. Many of the concerns regarding climate change use this data to extrapolate a level of statistical significance specifically focusing on temperature records from the last 150 years (the Industrial Age) that differ from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) constructed several emission trajectories of greenhouse gases needed to stabilize global temperatures and climate change impacts. In its Fourth Assessment Report, the IPCC predicted that the global mean temperature change from 1990 to 2100, given six scenarios, could range from 1.1 degrees Celsius (°C) to 6.4°C. Regardless of analytical methodology, global average temperatures and sea levels are expected to rise under all scenarios (IPCC 2007a). The report also concluded that "[w]arming of the climate system is unequivocal," and that "[m]ost of the observed increase in global average temperatures since the mid-20th century is very likely due to the observed increase in anthropogenic greenhouse gas concentrations."

There has been regulation enacted to reduce greenhouse gases, discussed in Section 3.4 below.

3.1.1 - Alternate Views Regarding Climate Change

There are some with alternate views on climate change. In particular, some believe that there was a lack of adequate peer review in the United Nations IPCC Fourth Assessment Report. There are disagreements regarding temperature changes, the impact of carbon dioxide, and the relationship between global temperature increase and natural disasters.

Alleged Lack of Adequate Peer Review in IPCC Report

An evaluation of IPCC's procedures shows that the peer-review process used for the Fourth Assessment Report could have been inadequate, as shown below:

> There is no common standard for [peer review] and the IPCC has no obvious procedures to guard against bias, undergoes no 'due diligence' checks on the validity of the science it summarizes, and makes no checks to ensure that data and methodology of the science that it cites are available to critics....Indeed, during the review process of the recent fourth assessment report (AR4), the IPCC actually supported at least one author who had declined to release data. Authors of many of the key climate studies cited in the IPCC are brazen in their refusal to release data and methodology, as the governing principles seem rightly to require,

> and despite their leading roles in the IPCC process giving enhanced stature to their work. (Holland 2007)

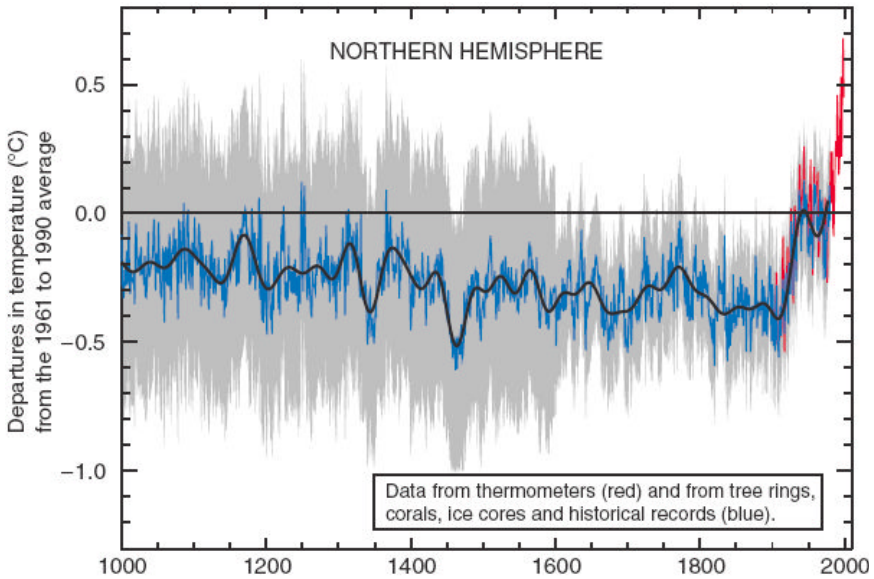
A recent audit, performed by 43 citizen auditors in 12 countries, concluded that almost half of the sources relied on in Fourth Assessment Report lacked any peer-review, directly refuting claims by the IPCC, and its Chairman, that all of the studies used or relied on in the Fourth Assessment Report were subject to peer-review. Using an elementary school grade system, the auditors summarized their findings:

> …21 out of 44 chapters contain so few peer-reviewed references that the IPCC received an F. The IPCC relied on peer-reviewed literature less than 60 percent of the time in these chapters. 5,587 references in the IPCC report were not peer-reviewed. Among these documents are press releases, newspaper and magazine articles, discussion papers, MA and PhD theses, working papers, and advocacy literature published by environmental groups. [emphasis in original.] (NoConsensus.org 2010)

Disagreements Regarding Temperature Changes

Figure 3 below shows a reproduction of a temperature graph originally popularized by climatologists Michael Mann, Raymond Bradley, and Malcolm Hughes in 1998 (Mann et al. 1998). The figure shows that temperatures are relatively stable until 1900, when the temperature increases rapidly. The graph has been used in some form by the IPCC in the Third and Fourth Assessment Reports.

Figure 3: Historical Temperature Changes



Source: Intergovernmental Panel on Climate Change, 2001.

In 2003, Stephen McIntyre and Ross McKitrick published "Corrections to the Mann et al. (1998) Proxy Data Base and Northern Hemisphere Average Temperature Series" in the journal Energy and Environment, Vol. 14, No. 6, Pgs. 751-772, raising concerns about their ability to reproduce the

results of Mann's study. The IPCC, in response to this study, contended that this was a consequence of differences in the way McIntyre and McKitrick implemented the methods of Mann's study and that the original reconstruction could be closely duplicated using the original proxy data. In 2004, Mann et al. published a corrigendum to their 1998 article, correcting a number of mistakes in the online supplementary information that accompanied their article but leaving the actual results unchanged. In 2005, McKitrick again tested the work of Mann et al. He commented on the faults of their findings:

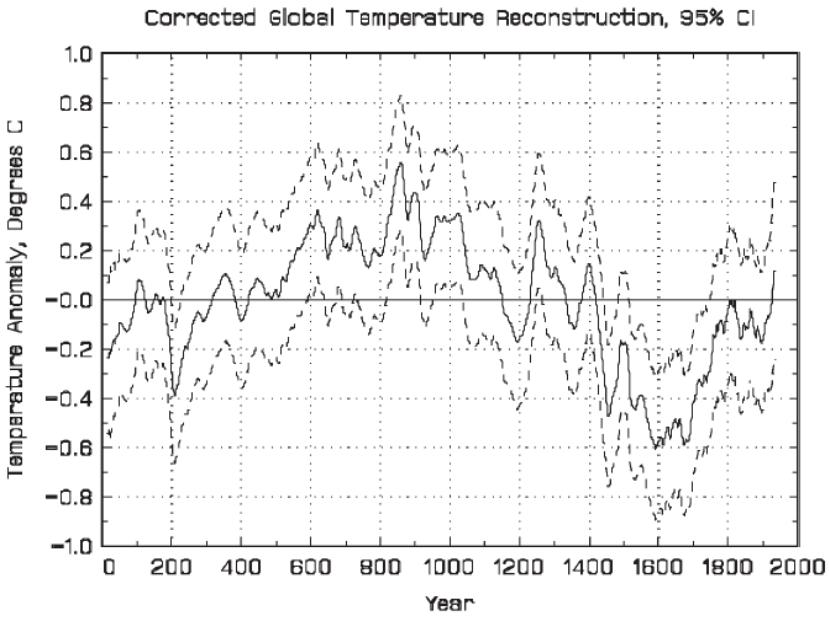
> The Mann multiproxy data, when correctly handled, shows the 20th century climate to be unexceptional compared to earlier centuries. This result is fully in line with the borehole evidence" (McKitrick 2005).

Hans von Storch, a German climate scientist, claimed that the methods used by Mann et al. probably underestimated the temperature fluctuations in the past by a factor of two or more (Von Storch et al. 2004). In its Fourth Assessment Report, the IPCC defended Mann et al. and reported that "the extent of any such biases in specific reconstructions... is uncertain ... It is very unlikely, however, that any bias would be as large as the factor of two suggested by Von Storch et al."

In 2006, a team of statisticians led by Edward Wegman, chair of the National Academy of Sciences' Committee on Applied and Theoretical Statistics, was assembled at the request of U.S. Representative Joe Barton and U.S. Representative Ed Whitfield. The report (Wegman 2006) primarily focused on the statistical analysis used by Mann et al., and also considered the personal and professional relationships between Mann et al. and other members of the paleoclimate community. Findings of this report (commonly known as the "Wegman Report") included the following: the Mann et al. reports were "obscure"; the criticisms by McIntyre and McKitrick were "valid and compelling"; and the Mann et al. method creates the same shape even with random data.

While many journals and reports have relied on temperature data collected from weather stations, others have relied on data gathered from tree-rings. In "2000-Year Global Temperature Reconstruction Based on Non-Tree-ring Proxies," scientist Craig Loehle examined ways of finding historical data without use of tree-rings. According to Loehle, there are two main reasons for not using tree-ring data for long-term temperature reconstruction: (1) tree-rings may not respond in a linear fashion to temperature; and (2) there is no agreed upon method for calibrating the tree series - a method used to select the "best" trees that track the temperature (which is also subject to manipulation) - against temperature. After plotting the data, the temperature reconstruction does not match the temperature graph published by Mann et al. but shows significant variation over a period of about 2,000 years. In 2008, Loehle published a correction, which noted that a few errors were made in the preceding analysis, but also found that the new results mirrored those from the original study. Figure 4 is from the 2008 correction.

Figure 4: Temperature Changes over Time - Loehle



Source: Loehle 2008

Loehle's work shows that there was a Medieval Warm Period and that once inaccurate data acquired through tree-ring analysis, such as the data heavily relied on by Mann et al., is removed from the data set, the current period of warming is relatively unexceptional and mirrors previous variations.

Impact of Carbon Dioxide

Anthropogenic theorists believe that the science on carbon dioxide is clear and undisputed. However, some scientists and researchers indicate that further investigation is required before a link between carbon dioxide and global warming can be made.

According to a researcher, John Stubbles, characterization of carbon dioxide as the cause for any increase in global temperatures is problematic for several reasons (Stubbles 2008). First, carbon dioxide is a minor greenhouse, present at only 0.038 percent by volume, and as a result, there are too few carbon dioxide molecules to heat up the atmosphere. Second, water vapor is present at about ten times the carbon dioxide level and is a much more effective absorber of infrared than carbon dioxide. Third, water vapor forms into clouds, which play a major role in reflecting incoming solar radiation and absorbing outgoing infrared like greenhouse gases. Finally, there are other ways that energy is dissipated besides infrared reflection, as carbon dioxide plays a very minor role in maintaining a thermal balance on Earth.

Other researchers have also shown that carbon dioxide's role in determining global temperature is unknown. According to one article (Chilingar et al. 2008); accumulation of carbon dioxide in large amounts may lead to global cooling. According to the authors, when the infrared radiation is absorbed by the molecules of greenhouse gases, its energy is transformed into thermal expansion of

air, which causes convective fluxes of air masses restoring the adiabatic distribution of temperature in the troposphere. Therefore, increases in carbon dioxide do not increase the global temperature of Earth's atmosphere. Two of the writers of this article also made a presentation in which they described the factors responsible for Earth's climate:

> (1) solar radiation as a dominant energy supplier to the atmosphere (and hydrosphere); (2) outgassing as a dominant gaseous matter supplier to the atmosphere; and (3) microbial activities at the interface of lithosphere and atmosphere. (Chilingar et al. 2007)

Some believe that reducing greenhouse gas emissions is premature and should not be done until better science exists. For example, if carbon dioxide is a cooling agent, reductions in its levels may lead to higher global temperatures.

Relationship between Global Temperature Increase and Natural Disasters

In its Fourth Assessment Report, the IPCC also claimed that global warming is increasing the severity and frequency of natural disasters, such as floods and hurricanes. The IPCC based this claim on an unpublished study by Robert Muir-Wood, which, at the time, had not been subjected to any peer review. Eventually, the study was published in 2008, but with the following disclaimer:

> We find insufficient evidence to claim a statistical relationship between global temperature increase and catastrophe losses (Leake 2010).

Muir-Wood himself has also been out-spoken about his findings, urging that a relationship between natural disasters and global warming has yet to be established:

> The idea that catastrophes are rising in cost partly because of climate change is completely misleading. We could not tell if it was just an association or cause and effect. Also, our study included 2004 and 2005, which was when there were some major hurricanes. If you took those years away then the significance of climate change vanished.

On January 25, the IPCC issued a statement, refuting the criticisms and alleging that the Fourth Assessment Report involves a "careful assessment of the available evidence" (IPCC 2010). However, the IPCC has done little to suggest that the numerous repetitions of the claim by world leaders have been inaccurate. There has also been no correction to the Fourth Assessment Report since Muir-Wood added the disclaimer to his report.

Thus, while California has made a public policy decision to reduce greenhouse gas emissions to 1990 levels by 2020, and to require the analysis of greenhouse gases in the context of CEQA, there is still significant debate within the scientific community about the causes of global warming, and the extent to which humanity or California can meaningfully impact climate change.

3.1.2 - Consequences of Climate Change

Consequences of Climate Change in California

In California, climate change may result in consequences such as the following (from California Climate Change Center 2006 and Moser et al. 2009).

- **A reduction in the quality and supply of water from the Sierra snowpack.** If heat-trapping emissions continue unabated, more precipitation will fall as rain instead of snow, and the snow that does fall will melt earlier, reducing the Sierra Nevada spring snowpack by as much as 70 to 90 percent. This can lead to challenges in securing adequate water supplies. It can also lead to a potential reduction in hydropower.
- **Increased risk of large wildfires.** If rain increases as temperatures rise, wildfires in the grasslands and chaparral ecosystems of southern California are estimated to increase by approximately 30 percent toward the end of the 21st century because more winter rain will stimulate the growth of more plant "fuel" available to burn in the fall. In contrast, a hotter, drier climate could promote up to 90 percent more northern California fires by the end of the century by drying out and increasing the flammability of forest vegetation.
- **Reductions in the quality and quantity of certain agricultural products.** The crops and products likely to be adversely affected include wine grapes, fruit, nuts, and milk.
- **Exacerbation of air quality problems.** If temperatures rise to the medium warming range, there could be 75 to 85 percent more days with weather conducive to ozone formation in Los Angeles and the San Joaquin Valley, relative to today's conditions. This is more than twice the increase expected if rising temperatures remain in the lower warming range. This increase in air quality problems could result in an increase in asthma and other health-related problems.
- **A rise in sea levels resulting in the displacement of coastal businesses and residences.** During the past century, sea levels along California's coast have risen about seven inches. If emissions continue unabated and temperatures rise into the higher anticipated warming range, sea level is expected to rise an additional 22 to 35 inches by the end of the century. Elevations of this magnitude would inundate coastal areas with salt water, accelerate coastal erosion, threaten vital levees and inland water systems, and disrupt wetlands and natural habitats.
- **An increase temperature and extreme weather events.** Climate change is expected to lead to increases in the frequency, intensity, and duration of extreme heat events and heat waves in California. More heat waves can exacerbate chronic disease or heat-related illness.
- **A decrease in the health and productivity of California's forests.** Climate change can cause an increase in wildfires, an enhanced insect population, and establishment of non-native species.

3.2 - Greenhouse Gases

3.2.1 - Common Greenhouse Gases

Gases that trap heat in the atmosphere are referred to as greenhouse gases. The effect is analogous to the way a greenhouse retains heat. Common greenhouse gases include water vapor, carbon dioxide, methane, nitrous oxides, chlorofluorocarbons, hydrofluorocarbons, perfluorocarbons, sulfur hexafluoride, ozone, and aerosols. Natural processes and human activities emit greenhouse gases. The presence of greenhouse gases in the atmosphere affects the earth's temperature. It is believed that emissions from human activities, such as electricity production and vehicle use, have elevated the concentration of these gases in the atmosphere beyond the level of naturally occurring concentrations.

Climate change is driven by forcings and feedbacks. Radiative forcing is the difference between the incoming energy and outgoing energy in the climate system. Positive forcing tends to warm the surface while negative forcing tends to cool it. Radiative forcing values are typically expressed in watts per square meter. A feedback is a climate process that can strengthen or weaken a forcing. For example, when ice or snow melts, it reveals darker land underneath which absorbs more radiation and causes more warming. The global warming potential is the potential of a gas or aerosol to trap heat in the atmosphere. The global warming potential of a gas is essentially a measurement of the radiative forcing of a greenhouse gas compared with the reference gas, carbon dioxide.

Individual greenhouse gas compounds have varying global warming potential and atmospheric lifetimes. Carbon dioxide, the reference gas for global warming potential, has a global warming potential of one. The global warming potential of a greenhouse gas is a measure of how much a given mass of a greenhouse gas is estimated to contribute to global warming. To describe how much global warming a given type and amount of greenhouse gas may cause, the carbon dioxide equivalent is used. The calculation of the carbon dioxide equivalent is a consistent methodology for comparing greenhouse gas emissions since it normalizes various greenhouse gas emissions to a consistent reference gas, carbon dioxide. For example, methane's warming potential of 21 indicates that methane has 21 times greater warming affect than carbon dioxide on a molecule per molecule basis. A carbon dioxide equivalent is the mass emissions of an individual greenhouse gas multiplied by its global warming potential. Greenhouse gases defined by Assembly Bill (AB) 32 (see the Climate Change Regulatory Environment section for a description) include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. They are described in Table 6.

Table 6: Description of Greenhouse Gases

Greenhouse Gas	Description and Physical Properties	Sources
Nitrous oxide	Nitrous oxide (laughing gas) is a colorless greenhouse gas. It has a lifetime of 114 years. Its global warming potential is 310.	Microbial processes in soil and water, fuel combustion, and industrial processes.
Methane	Methane is a flammable gas and is the main component of natural gas. It has a lifetime of 12 years. Its global warming potential is 21.	Methane is extracted from geological deposits (natural gas fields). Other sources are landfills, fermentation of manure, and decay of organic matter.
Carbon dioxide	Carbon dioxide (CO_2) is an odorless, colorless, natural greenhouse gas. Carbon dioxide's global warming potential is 1. The concentration in 2005 was 379 parts per million (ppm), which is an increase of about 1.4 ppm per year since 1960.	Natural sources include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic sources are from burning coal, oil, natural gas, and wood.
Chloro-fluorocarbons	These are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. They are nontoxic, nonflammable, insoluble, and chemically unreactive in the troposphere (the level of air at the earth's surface). Global warming potentials range from 3,800 to 8,100.	Chlorofluorocarbons were synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone. The Montreal Protocol on Substances that Deplete the Ozone Layer prohibited their production in 1987.
Hydro-fluorocarbons	Hydrofluorocarbons are a group of greenhouse gases containing carbon, chlorine, and at least one hydrogen atom. Global warming potentials range from 140 to 11,700.	Hydrofluorocarbons are synthetic manmade chemicals used as a substitute for chlorofluorocarbons in applications such as automobile air conditioners and refrigerants.
Perfluorocarbons	Perfluorocarbons have stable molecular structures and only break down by ultraviolet rays about 60 kilometers above Earth's surface. Because of this, they have long lifetimes, between 10,000 and 50,000 years. Global warming potentials range from 6,500 to 9,200.	Two main sources of perfluorocarbons are primary aluminum production and semiconductor manufacturing.
Sulfur hexafluoride	Sulfur hexafluoride is an inorganic, odorless, colorless, and nontoxic, nonflammable gas. It has a lifetime of 3,200 years. It has a high global warming potential, 23,900.	This gas is manmade and used for insulation in electric power transmission equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas.
Sources: Compiled from a variety of sources, primarily Intergovernmental Panel on Climate Change 2007a and Intergovernmental Panel on Climate Change 2007b.		

Other greenhouse gases include water vapor, ozone, and aerosols. Water vapor is an important component of our climate system and is not regulated. Ozone and aerosols are short-lived greenhouse gases; global warming potentials for short-lived greenhouse gases are not defined by the IPCC. Aerosols can remain suspended in the atmosphere for about a week and can warm the atmosphere by

absorbing heat and cool the atmosphere by reflecting light. Black carbon is a type of aerosol that can also cause warming from deposition on snow.

Black Carbon

Black carbon contributes to temperature changes. However, as discussed in the following excerpt, (Wilson and Walter 2012), the procedures to quantify these changes have not been widely accepted or thoroughly researched. The project would emit black carbon through emissions of diesel PM during construction and operation. If black carbon were included in the analysis, the greenhouse gas emissions may be greater.

> Black carbon is formed by incomplete combustion of fossil fuels, biofuels, and biomass. Sources of black carbon within a jurisdiction may include exhaust from diesel trucks, vehicles, and equipment, as well as smoke from biogenic combustion. Biogenic combustion sources of black carbon include the burning of biofuels used for transportation, the burning of biomass for electricity generation and heating, prescribed burning of agricultural residue, and natural and unnatural wildfires. Black carbon is not a gas but an aerosol—particles or liquid droplets suspended in air. Black carbon only remains in the atmosphere for days to weeks, as opposed to other greenhouse gases that can remain in the atmosphere for years. Black carbon can be deposited on snow, where it absorbs sunlight, reduces sunlight reflectivity, and hastens snowmelt. Direct effects include absorbing incoming and outgoing radiation; indirectly, black carbon can also affect cloud reflectivity, precipitation, and surface dimming (cooling).
>
> Most greenhouse gases have an assigned global warming potential, or a measure of how much a given mass of a greenhouse gas is estimated to contribute to global warming. Carbon dioxide, the reference gas for global warming potential, has a global warming potential of 1. Methane's global warming potential of 21 indicates that it has 21 times greater warming effect than carbon dioxide. However, black carbon as of yet does not have consensus global warming potential. As a result, few GHG inventories have included black carbon to date, and the US EPA has not included black carbon in its most recent GHG inventory.
>
> The overall uncertainty of the net radiative forcing (warming influence) by black carbon is largely due to physical complexity and the changes in cloud properties that may offset the positive forcing. A wealth of recent scientific research has been conducted on black carbon, as summarized in the Integrated Assessment of Black Carbon and Tropospheric Ozone, which found a wide range of global warming potential estimates for black carbon (between 200 and 1,500) measured over 100 years and higher levels over shorter periods. Globally averaged net forcing of black carbon is likely to be positive, with some estimates that it could approach 30 to 40 percent of that of carbon dioxide. Research on black carbon in the United States has picked up speed within the last year. As a result of legislation requiring the EPA to conduct an analysis of black carbon, the EPA prepared a draft report, and the Advisory Council on Clean Air Compliance Analysis submitted a review of the report. The EPA

awarded $6.6 million in grants to eight universities for black carbon research, specifically for an "increased understanding of the impact black carbon has on climate change."

The EPA is planning to reduce black carbon emissions in the Arctic by assessing sources, developing an emissions inventory, implementing projects to reduce black carbon from diesel, and establishing policy recommendations and financing options for reducing black carbon diesel sources. Some bodies, such as the American National Standards Institute, have called for updating inventory protocols to include black carbon. Locally in California, the three largest regional air pollution control agencies have not developed policies or programs for addressing black carbon. The South Coast Air Quality Management District does not currently recommend analyzing the effects of black carbon in California Environmental Quality Act documents based on limited data availability. The San Joaquin Valley Unified Air Pollution Control District does not currently have recommendations. The Bay Area Air Quality Management District does not identify aerosols or black carbon as a GHG of concern in its guidelines (BAAQMD 2011).

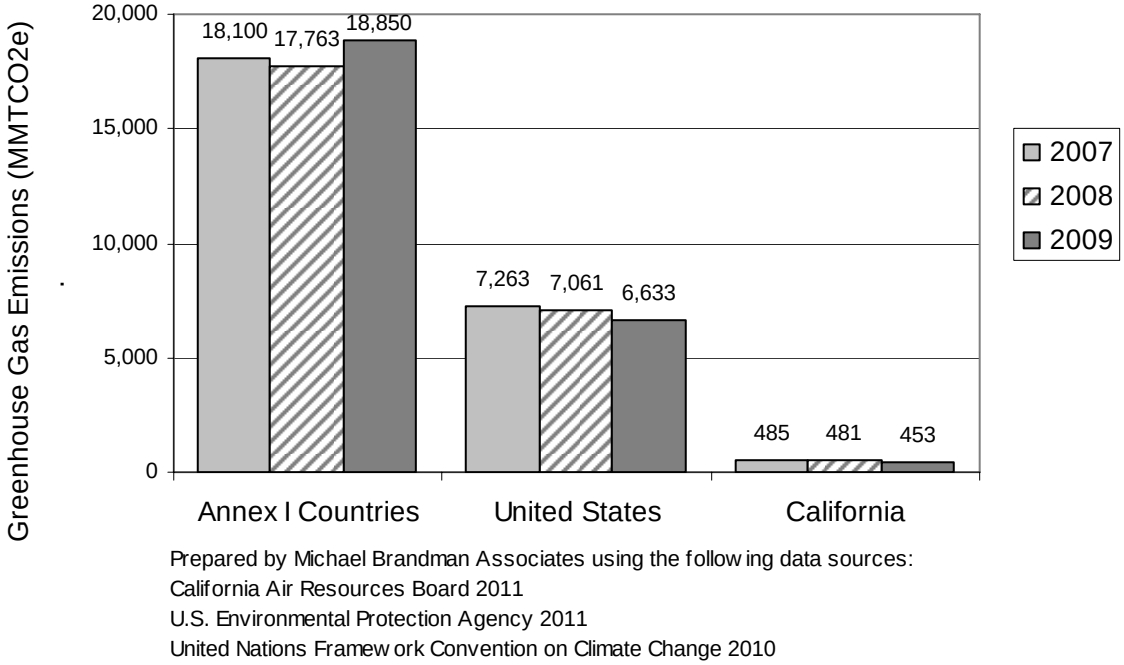
Health Effects

Although there could be health effects resulting from changes in the climate and the consequences that can bring about, inhalation of greenhouse gases at levels currently in the atmosphere would not result in adverse health effects, with the exception of ozone and aerosols (particulate matter). The potential health effects of ozone and particulate matter are discussed in criteria pollutant analyses. At very high indoor concentrations (not at levels existing outside), carbon dioxide, methane, sulfur hexafluoride, and some chlorofluorocarbons can cause suffocation as the gases can displace oxygen (Centers for Disease Control and Prevention 2010, Occupational Safety and Health Administration 2003).

3.3 - Emissions Inventories

Emissions worldwide were approximately 49,000 million metric tons of carbon dioxide equivalents ($MMTCO_2e$) in 2004 (IPCC 2007b). Greenhouse gas emissions in 2007, 2008, and 2009 are shown in Figure 5. Annex I parties refer to countries that joined the United Nations Framework Convention on Climate Change.

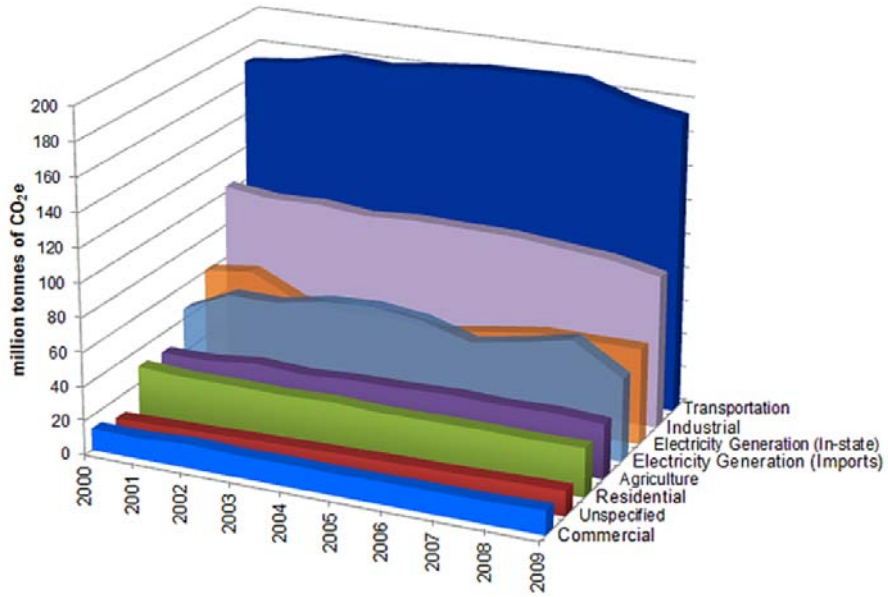
Figure 5: Greenhouse Gas Emissions Trends



Prepared by Michael Brandman Associates using the following data sources:
California Air Resources Board 2011
U.S. Environmental Protection Agency 2011
United Nations Framework Convention on Climate Change 2010

As shown in Figure 6, the main contribution of greenhouse gas emissions in California between the year 2000 through 2009 was transportation. The second highest sector was industrial, which includes sources from refineries, general fuel use, oil and gas extraction, cement plants, and cogeneration heat output.

Figure 6: Greenhouse Gas Emission Trends by Sector in California



Source: California Resources Board, 2011.

Greenhouse gas emissions inventories for the City of Ontario were prepared as part of the EIR for the Ontario Plan (City of Ontario 2009). Estimated emissions for the community for 2008 and projected 2035 emissions under The Ontario Plan are shown in Table 7. As shown in the table, development under the City of Ontario General Plan is projected to result in significant greenhouse gas emissions.

Table 7: City of Ontario Greenhouse Gas Emissions Inventory

Source Category	Ontario Greenhouse Gas Emissions ($MTCO_2e$ per year)	
	2008	2035
Transportation	3,603,215	10,605,230
Electricity	905,615	2,346,343
Area	207,533	473,356
Recycling and Waste	56,298	147,926
Agricultural	356,306	0
Total	**5,128,968**	**13,572,356**

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents
Source: City of Ontario, 2009.

3.4 - Regulatory Environment

3.4.1 - International

Climate change is a global issue involving greenhouse gas emissions from all around the world; therefore, countries such as the ones discussed below have made an effort to reduce greenhouse gases.

Intergovernmental Panel on Climate Change. In 1988, the United Nations and the World Meteorological Organization established the Intergovernmental Panel on Climate Change to assess the scientific, technical and socio-economic information relevant to understanding the scientific basis of risk of human-induced climate change, its potential impacts, and options for adaptation and mitigation.

United Nations Framework Convention on Climate Change. On March 21, 1994, the United States joined a number of countries around the world in signing the United Nations Framework Convention on Climate Change (Convention). Under the Convention, governments gather and share information on greenhouse gas emissions, national policies, and best practices; launch national strategies for addressing greenhouse gas emissions and adapting to expected impacts, including the provision of financial and technological support to developing countries; and cooperate in preparing for adaptation to the impacts of climate change.

Kyoto Protocol. The Kyoto Protocol is an international agreement linked to the United Nations Framework Convention on Climate Change. The major feature of the Kyoto Protocol is that it sets binding targets for 37 industrialized countries and the European community for reducing greenhouse gas emissions at an average of five per cent against 1990 levels over the five-year period 2008-2012. The Convention (discussed above) encouraged industrialized countries to stabilize emissions; however, the Protocol commits them to do so. Developed countries have contributed more emissions over the last 150 years; therefore, the Protocol places a heavier burden on developed nations under the principle of "common but differentiated responsibilities."

The United States has not entered into force of the Kyoto Protocol. However, other countries have entered, such as Australia, Canada, China, the European Union (Belgium, Denmark, Germany, the Hellenic Republic, Spain, France, Ireland, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland, Sweden, Great Britain, and Northern Ireland), Japan, Mexico, and New Zealand.

3.4.2 - National

Prior to the last decade, there have been no concrete federal regulations of greenhouse gases or major planning for climate change adaptation. The following are actions regarding the federal government, greenhouse gases, and fuel efficiency.

Greenhouse Gas Endangerment. *Massachusetts v. EPA* (Supreme Court Case 05-1120) was argued before the United States Supreme Court on November 29, 2006, in which it was petitioned that the EPA regulate four greenhouse gases, including carbon dioxide, under Section 202(a)(1) of the Clean Air Act. A decision was made on April 2, 2007, in which the Supreme Court found that greenhouse gases are air pollutants covered by the Clean Air Act. The Court held that the Administrator must determine whether emissions of greenhouse gases from new motor vehicles cause or contribute to air pollution, which may reasonably be anticipated to endanger public health or welfare, or whether the science is too uncertain to make a reasoned decision. On December 7, 2009, the EPA Administrator signed two distinct findings regarding greenhouse gases under section 202(a) of the Clean Air Act:

- Endangerment Finding: The Administrator finds that the current and projected concentrations of the six key well-mixed greenhouse gases—carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride—in the atmosphere threaten the public health and welfare of current and future generations.
- Cause or Contribute Finding: The Administrator finds that the combined emissions of these well-mixed greenhouse gases from new motor vehicles and new motor vehicle engines contribute to greenhouse gas pollution, which threatens public health and welfare.

These findings do not impose requirements on industry or other entities. However, this was a prerequisite for implementing greenhouse gas emissions standards for vehicles, as discussed in the section "Clean Vehicles" below.

The EPA denied ten petitions for Reconsideration of the Endangerment and Cause or Contribute Findings in 2010. Some of the petitioners included the Ohio Coal Association, Peabody Energy Company, and the State of Texas.

In September 2011, the EPA Office of Inspector General evaluated the EPA's compliance with established policy and procedures in the development of the endangerment finding, including processes for ensuring information quality. The evaluation concluded that the technical support document should have had more rigorous EPA peer review.

In June 2012, a federal appeals court rejected a lawsuit by thirteen states against the EPA. The suit alleged that the EPA violated the law by relying almost exclusively on data from the United Nations Intergovernmental Panel on Climate Change rather than doing its own research or testing data according to federal standards. The states include Virginia, Texas, Alabama, Florida, Hawaii, Indiana, Kentucky, Louisiana, Mississippi, Nebraska, North Dakota, Oklahoma, South Carolina, South Dakota, and Utah. Virginia intends to petition the Supreme Court to review the case.

Clean Vehicles. Congress first passed the Corporate Average Fuel Economy law in 1975 to increase the fuel economy of cars and light duty trucks. The law has become more stringent over time. On May 19, 2009, President Obama put in motion a new national policy to increase fuel economy for all new cars and trucks sold in the United States. On April 1, 2010, the EPA and the Department of Transportation's National Highway Safety Administration announced a joint final rule establishing a national program that would reduce greenhouse gas emissions and improve fuel economy for new cars and trucks sold in the United States.

The first phase of the national program would apply to passenger cars, light-duty trucks, and medium-duty passenger vehicles, covering model years 2012 through 2016. They require these vehicles to meet an estimated combined average emissions level of 250 grams of carbon dioxide per mile, equivalent to 35.5 miles per gallon if the automobile industry were to meet this carbon dioxide level solely through fuel economy improvements. Together, these standards would cut carbon dioxide emissions by an estimated 960 million metric tons and 1.8 billion barrels of oil over the lifetime of the vehicles sold under the program (model years 2012-2016). The EPA and the National Highway Safety Administration are working on a second-phase joint rulemaking to establish national standards for light-duty vehicles for model years 2017 and beyond.

On October 25, 2010, the EPA and the U.S. Department of Transportation proposed the first national standards to reduce greenhouse gas emissions and improve fuel efficiency of *heavy-duty trucks and buses*. For combination tractors, the agencies are proposing engine and vehicle standards that begin in the 2014 model year and achieve up to a 20 percent reduction in carbon dioxide emissions and fuel consumption by the 2018 model year. For heavy-duty pickup trucks and vans, the agencies are proposing separate gasoline and diesel truck standards, which phase in starting in the 2014 model year and achieve up to a 10 percent reduction for gasoline vehicles and 15 percent reduction for diesel

vehicles by 2018 model year (12 and 17 percent respectively if accounting for air conditioning leakage). Lastly, for vocational vehicles, the agencies are proposing engine and vehicle standards starting in the 2014 model year, which would achieve up to a 10 percent reduction in fuel consumption and carbon dioxide emissions by 2018 model year.

Mandatory Reporting of Greenhouse Gases. The Consolidated Appropriations Act of 2008, passed in December 2007, requires the establishment of mandatory greenhouse gas reporting requirements. On September 22, 2009, the EPA issued the Final Mandatory Reporting of Greenhouse Gases Rule. The rule requires reporting of greenhouse gas emissions from large sources and suppliers in the United States, and is intended to collect accurate and timely emissions data to inform future policy decisions. Under the rule, suppliers of fossil fuels or industrial greenhouse gases, manufacturers of vehicles and engines, and facilities that emit 25,000 metric tons or more per year of greenhouse gas emissions are required to submit annual reports to the EPA.

New Source Review. The EPA issued a final rule on May 13, 2010 that establishes thresholds for greenhouse gases that define when permits under the New Source Review Prevention of Significant Deterioration and Title V Operating Permit programs are required for new and existing industrial facilities. This final rule "tailors" the requirements of these Clean Air Act permitting programs to limit which facilities will be required to obtain Prevention of Significant Deterioration and Title V permits. In the preamble to the revisions to the federal code of regulations, EPA states:

> This rulemaking is necessary because without it the Prevention of Significant Deterioration and Title V requirements would apply, as of January 2, 2011, at the 100 or 250 tons per year levels provided under the Clean Air Act, greatly increasing the number of required permits, imposing undue costs on small sources, overwhelming the resources of permitting authorities, and severely impairing the functioning of the programs. EPA is relieving these resource burdens by phasing in the applicability of these programs to greenhouse gas sources, starting with the largest greenhouse gas emitters. This rule establishes two initial steps of the phase-in. The rule also commits the agency to take certain actions on future steps addressing smaller sources, but excludes certain smaller sources from Prevention of Significant Deterioration and Title V permitting for greenhouse gas emissions until at least April 30, 2016.

EPA estimates that facilities responsible for nearly 70 percent of the national greenhouse gas emissions from stationary sources will be subject to permitting requirements under this rule. This includes the nation's largest greenhouse gas emitters—power plants, refineries, and cement production facilities.

Standards of Performance for Greenhouse Gas Emissions for New Stationary Sources: Electric Utility Generating Units. As required by a settlement agreement, the EPA proposed new performance standards for emissions of carbon dioxide for new affected fossil fuel-fired electric

utility generating units on March 27, 2012. New sources greater than 25 megawatt would be required to meet an output based standard of 1,000 pounds of carbon dioxide per megawatt-hour, based on the performance of widely used natural gas combined cycle technology.

Cap and Trade. Cap and trade refers to a policy tool where emissions are limited to a certain amount and can be traded, or provides flexibility on how the emitter can comply. Successful examples in the United States include the Acid Rain Program and the NO_X Budget Trading Program in the northeast. There is no federal cap and trade program currently; and no pending legislation exists to establish a cap and trade program, other than the AB32 cap and trade program that applied to select sources such as large industrial facilities and not the project.

The Western Climate Initiative partner jurisdictions have developed a comprehensive initiative to reduce regional greenhouse gas emissions to 15 percent below 2005 levels by 2020. The partners are California, British Columbia, Manitoba, Ontario, and Quebec. Its cap and trade program is estimated to be fully implemented in 2015.

3.4.3 - California

Title 24 and California Green Building Standards. Although these regulations are not specifically enacted to reduce greenhouse gases, they increase energy efficiency for new buildings, thus indirectly reducing greenhouse gas emissions. For a description, please refer to Section 1.7, Standard Conditions, in this report.

Pavley Regulations and Fuel Efficiency Standards. California AB 1493, enacted on July 22, 2002, required the ARB to develop and adopt regulations that reduce greenhouse gases emitted by passenger vehicles and light duty trucks. The regulation was stalled by automaker lawsuits and by the EPA's denial of an implementation waiver. On January 21, 2009, the ARB requested that the EPA reconsider its previous waiver denial. On January 26, 2009, President Obama directed that the EPA assess whether the denial of the waiver was appropriate. On June 30, 2009, the EPA granted the waiver request. On September 8, 2009, the U.S. Chamber of Commerce and the National Automobile Dealers Association sued the EPA to challenge its granting of the waiver to California for its standards. California assisted the EPA in defending the waiver decision. The U.S. District Court for the District of Columbia denied the Chamber's petition on April 29, 2011.

The standards phase in during the 2009 through 2016 model years. When fully phased in, the near term (2009-2012) standards will result in about a 22-percent reduction compared with the 2002 fleet, and the mid-term (2013-2016) standards will result in about a 30-percent reduction. Several technologies stand out as providing significant reductions in emissions at favorable costs. These include discrete variable valve lift or camless valve actuation to optimize valve operation rather than relying on fixed valve timing and lift as has historically been done; turbocharging to boost power and allow for engine downsizing; improved multi-speed transmissions; and improved air conditioning systems that operate optimally, leak less, and/or use an alternative refrigerant.

Executive Order S-3-05. Former California Governor Arnold Schwarzenegger announced on June 1, 2005, through Executive Order S-3-05, the following reduction targets for greenhouse gas emissions:

- By 2010, reduce greenhouse gas emissions to 2000 levels.
- By 2020, reduce greenhouse gas emissions to 1990 levels.
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

The 2050 reduction goal represents what scientists believe is necessary to reach levels that will stabilize the climate. The 2020 goal was established to be an aggressive, but achievable, mid-term target. Because this is an executive order, the goals are not legally enforceable for local governments or the private sector.

Low Carbon Fuel Standard - Executive Order S-01-07. The Governor signed Executive Order S-01-07 on January 18, 2007. The order mandates that a statewide goal shall be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by 2020. In particular, the executive order established a Low Carbon Fuel Standard and directed the Secretary for Environmental Protection to coordinate the actions of the California Energy Commission, the ARB, the University of California, and other agencies to develop and propose protocols for measuring the "life-cycle carbon intensity" of transportation fuels. This analysis supporting development of the protocols was included in the State Implementation Plan for alternative fuels (State Alternative Fuels Plan adopted by California Energy Commission on December 24, 2007) and was submitted to ARB for consideration as an "early action" item under AB 32. The ARB adopted the Low Carbon Fuel Standard on April 23, 2009. The Low Carbon Fuel Standard was challenged in the United States District Court in Fresno in 2011. The court's ruling issued on December 29, 2011 included a preliminary injunction against ARB's implementation of the rule. The Ninth Circuit Court of Appeals stayed the injunction on April 23, 2012 pending final ruling on appeal, allowing the ARB to continue to implement and enforce the regulation.

SB 1368. In 2006, the State Legislature adopted Senate Bill (SB) 1368, which was subsequently signed into law by the Governor. SB 1368 directs the California Public Utilities Commission to adopt a performance standard for greenhouse gas emissions for the future power purchases of California utilities. SB 1368 seeks to limit carbon emissions associated with electrical energy consumed in California by forbidding procurement arrangements for energy longer than 5 years from resources that exceed the emissions of a relatively clean, combined cycle natural gas power plant. Because of the carbon content of its fuel source, a coal-fired plant cannot meet this standard because such plants emit roughly twice as much carbon as natural gas, combined cycle plants. Accordingly, the new law will effectively prevent California's utilities from investing in, otherwise financially supporting, or purchasing power from new coal plants located in or out of the State. Thus, SB 1368 will lead to dramatically lower greenhouse gas emissions associated with California's energy demand,

as SB 1368 will effectively prohibit California utilities from purchasing power from out-of-state producers that cannot satisfy the performance standard for greenhouse gas emissions required by SB 1368. The California Public Utilities Commission adopted the regulations required by SB 1368 on August 29, 2007.

SB 97 and the CEQA Guidelines Update. Passed in August 2007, SB 97 added Section 21083.05 to the Public Resources Code. The code states "(a) On or before July 1, 2009, the Office of Planning and Research shall prepare, develop, and transmit to the Resources Agency guidelines for the mitigation of greenhouse gas emissions or the effects of greenhouse gas emissions as required by this division, including, but not limited to, effects associated with transportation or energy consumption. (b) On or before January 1, 2010, the Resources Agency shall certify and adopt guidelines prepared and developed by the Office of Planning and Research pursuant to subdivision (a)." Section 21097 was also added to the Public Resources Code. It provided CEQA protection until January 1, 2010 for transportation projects funded by the Highway Safety, Traffic Reduction, Air Quality, and Port Security Bond Act of 2006 or projects funded by the Disaster Preparedness and Flood Prevention Bond Act of 2006, in stating that the failure to analyze adequately the effects of greenhouse gases would not violate CEQA.

On April 13, 2009, the Office of Planning and Research submitted to the Secretary for Natural Resources its recommended amendments to the CEQA Guidelines for addressing greenhouse gas emissions. On July 3, 2009, the Natural Resources Agency commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources Code section 21083.05. Following a 55-day public comment period and two public hearings, the Natural Resources Agency proposed revisions to the text of the proposed Guidelines amendments. The Natural Resources Agency transmitted the adopted amendments and the entire rulemaking file to the Office of Administrative Law on December 31, 2009. On February 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the California Code of Regulations. The Amendments became effective on March 18, 2010.

The CEQA Amendments provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in CEQA documents. The CEQA Amendments fit within the existing CEQA framework by amending existing CEQA Guidelines to reference climate change.

A new section, CEQA Guidelines Section 15064.4, was added to assist agencies in determining the significance of greenhouse gas emissions. The new section allows agencies the discretion to determine whether a quantitative or qualitative analysis is best for a particular project. However, little guidance is offered on the crucial next step in this assessment process—how to determine whether the project's estimated greenhouse gas emissions are significant or cumulatively considerable.

Also amended were CEQA Guidelines Sections 15126.4 and 15130, which address mitigation measures and cumulative impacts respectively. Greenhouse gas mitigation measures are referenced in general terms, but no specific measures are championed. The revision to the cumulative impact discussion requirement (Section 15130) simply directs agencies to analyze greenhouse gas emissions in an EIR when a project's incremental contribution of emissions may be cumulatively considerable, however it does not answer the question of when emissions are cumulatively considerable.

Section 15183.5 permits programmatic greenhouse gas analysis and later project-specific tiering, as well as the preparation of Greenhouse Gas Reduction Plans. Compliance with such plans can support a determination that a project's cumulative effect is not cumulatively considerable, according to proposed Section 15183.5(b).

In addition, the amendments revised Appendix F of the CEQA Guidelines, which focuses on Energy Conservation. The sample environmental checklist in Appendix G was amended to include greenhouse gas questions.

AB 32. The California State Legislature enacted AB 32, the California Global Warming Solutions Act of 2006. AB 32 requires that greenhouse gases emitted in California be reduced to 1990 levels by the year 2020. "Greenhouse gases" as defined under AB 32 include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. ARB is the state agency charged with monitoring and regulating sources of greenhouse gases. AB 32 states the following:

> Global warming poses a serious threat to the economic well-being, public health, natural resources, and the environment of California. The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in the quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other human health-related problems.

The ARB Board approved the 1990 greenhouse gas emissions level of 427 million metric tons of carbon dioxide equivalent ($MMTCO_2e$) on December 6, 2007 (CARB 2007). Therefore, emissions generated in California in 2020 are required to be equal to or less than 427 $MMTCO_2e$. Emissions in 2020 in a "business as usual" scenario are estimated to be 596 $MMTCO_2e$.

Under AB 32, the ARB published its Final Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California. Discrete early action measures are currently underway or are enforceable by January 1, 2010. The ARB has 44 early action measures that apply to the transportation, commercial, forestry, agriculture, cement, oil and gas, fire suppression, fuels, education, energy efficiency, electricity, and waste sectors. Of these early action measures, nine are considered discrete early action measures, as they are regulatory and enforceable by January 1, 2010.

The ARB estimates that the 44 recommendations are expected to result in reductions of at least 42 $MMTCO_2e$ by 2020, representing approximately 25 percent of the 2020 target.

The ARB's Climate Change Scoping Plan (Scoping Plan) contains measures designed to reduce the State's emissions to 1990 levels by the year 2020 (California Air Resources Board 2008). The Scoping Plan identifies recommended measures for multiple greenhouse gas emission sectors and the associated emission reductions needed to achieve the year 2020 emissions target—each sector has a different emission reduction target. Most of the measures target the transportation and electricity sectors. As stated in the Scoping Plan, the key elements of the strategy for achieving the 2020 greenhouse gas target include:

- Expanding and strengthening existing energy efficiency programs as well as building and appliance standards;
- Achieving a statewide renewables energy mix of 33 percent;
- Developing a California cap-and-trade program that links with other Western Climate Initiative partner programs to create a regional market system;
- Establishing targets for transportation-related greenhouse gas emissions for regions throughout California and pursuing policies and incentives to achieve those targets;
- Adopting and implementing measures pursuant to existing State laws and policies, including California's clean car standards, goods movement measures, and the Low Carbon Fuel Standard; and
- Creating targeted fees, including a public goods charge on water use, fees on high global warming potential gases, and a fee to fund the administrative costs of the State's long-term commitment to AB 32 implementation.

In addition, the Scoping Plan differentiates between "capped" and "uncapped" strategies.

"Capped" strategies are subject to the proposed cap-and-trade program. The Scoping Plan states that the inclusion of these emissions within the cap-and trade program will help ensure that the year 2020 emission targets are met despite some degree of uncertainty in the emission reduction estimates for any individual measure. Implementation of the capped strategies is calculated to achieve a sufficient amount of reductions by 2020 to achieve the emission target contained in AB 32.

"Uncapped" strategies that will not be subject to the cap-and-trade emissions caps and requirements are provided as a margin of safety by accounting for additional greenhouse gas emission reductions.[2]

SB 375. Passing the Senate on August 30, 2008, SB 375 was signed by the Governor on September 30, 2008. According to SB 375, the transportation sector is the largest contributor of greenhouse gas emissions, which emits over 40 percent of the total greenhouse gas emissions in California. SB 375 states, "Without improved land use and transportation policy, California will not be able to achieve the goals of AB 32." SB 375 does the following: (1) requires metropolitan planning organizations to include sustainable community strategies in their regional transportation plans for reducing greenhouse gas emissions, (2) aligns planning for transportation and housing, and (3) creates specified incentives for the implementation of the strategies. The Southern California Association of Governments has adopted emissions reductions for per capita light duty vehicles from 2005 levels of 7 percent by 2020 and 13 percent by 2035.

Concerning CEQA, SB 375, section 21159.28 states that CEQA findings determine whether certain projects are not required to reference, describe, or discuss (1) growth inducing impacts or (2) any project-specific or cumulative impacts from cars and light-duty truck trips generated by the project on global warming or the regional transportation network if the project:

1. Is in an area with an approved sustainable communities strategy or an alternative planning strategy that the ARB accepts as achieving the greenhouse gas emission reduction targets.
2. Is consistent with that strategy (in designation, density, building intensity, and applicable policies).
3. Incorporates the mitigation measures required by an applicable prior environmental document.

Executive Order S-13-08. Executive Order S-13-08 indicates that "climate change in California during the next century is expected to shift precipitation patterns, accelerate sea level rise and increase temperatures, thereby posing a serious threat to California's economy, to the health and welfare of its population and to its natural resources." Pursuant to the requirements in the order, the 2009 California Climate Adaptation Strategy (California Natural Resources Agency 2009) was adopted, which is the " . . . first statewide, multi-sector, region-specific, and information-based climate change adaptation strategy in the United States." Objectives include analyzing risks of

[2] On March 17, 2011, the San Francisco Superior Court issued a final decision in *Association of Irritated Residents v. California Air Resources Board* (Case No. CPF-09-509562). While the Court upheld the validity of the ARB Scoping Plan for the implementation of AB 32, the Court enjoined ARB from further rulemaking under AB 32 until ARB amends its CEQA environmental review of the Scoping Plan to address the flaws identified by the Court. On May 23, 2011, ARB filed an appeal. On June 24, 2011, the Court of Appeal granted ARB's petition staying the trail court's order pending consideration of the appeal. In the interest of informed decision-making, on June 13, 2011, ARB released the expanded alternatives analysis in a draft Supplement to the AB 32 Scoping Plan Functional Equivalent Document. The ARB Board approved the Scoping Plan and the CEQA document on August 24, 2011.

climate change in California, identifying and exploring strategies to adapt to climate change, and specifying a direction for future research.

Renewable Electricity Standards. On September 12, 2002, Governor Gray Davis signed SB 1078 requiring California to generate 20 percent of its electricity from renewable energy by 2017. SB 107 changed the due date to 2010 instead of 2017. On November 17, 2008, Governor Arnold Schwarzenegger signed Executive Order S-14-08, which established a Renewable Portfolio Standard target for California requiring that all retail sellers of electricity serve 33 percent of their load with renewable energy by 2020. Governor Schwarzenegger also directed the ARB (Executive Order S-21-09) to adopt a regulation by July 31, 2010, requiring the state's load serving entities to meet a 33 percent renewable energy target by 2020. The ARB Board approved the Renewable Electricity Standard on September 23, 2010 by Resolution 10-23.

Smartway Partners. Smartway effectively refers to aerodynamic and rolling resistance requirements geared toward reducing fuel consumption. Most large trucking fleets driving newer vehicles are compliant with Smartway design requirements. Moreover, over time, all heavy-duty trucks will have to comply with the ARB Greenhouse Gas Regulation that is designed with the Smartway Program in mind to reduce greenhouse gas emissions by making them more fuel efficient. For instance, all 2010 and older model year tractors that pull 53-foot or longer box type trailers must use Smartway verified low rolling resistance tires beginning January 1, 2013.

3.4.4 - Regional

South Coast Air Quality Management District

The project is within the South Coast Air Basin, which is under the jurisdiction of the South Coast Air Quality Management District (SCAQMD). SCAQMD Regulation XXVII currently includes three rules:

- The purpose of Rule 2700 is to define terms and post global warming potentials.
- The purpose of Rule 2701, SoCal Climate Solutions Exchange, is to establish a voluntary program to encourage, quantify, and certify voluntary, high quality certified greenhouse gas emission reductions in the SCAQMD.
- Rule 2702, Greenhouse Gas Reduction Program, was adopted on February 6, 2009. The purpose of this rule is to create a Greenhouse Gas Reduction Program for greenhouse gas emission reductions in the SCAQMD. The SCAQMD will fund projects through contracts in response to requests for proposals or purchase reductions from other parties.

City of Ontario

The Ontario Plan (TOP) was adopted in 2010 (City of Ontario 2010) to provide community direction in integrating and planning for the City's orderly and sustained development 20 years or more into

the future. The TOP's Policy Plan contains a specific goal and supporting policies regarding air quality resources and greenhouse gases. This goal and the supporting policies are shown in Table 8.

Table 8: City of Ontario TOP Air Quality Resources Element

Air Quality Resource	Description
Goal: ER4	Improved indoor and outdoor air quality and reduced locally generated pollutant emissions
Policy ER4-1	*Land Use*. We reduce GHG and other local pollutant emissions through compact, mixed use, and transit-oriented development and development that improves the regional jobs-housing balance.
ER4-2	*Sensitive Land Uses.* We prohibit the future siting of sensitive land uses, within the distances defined by the California Air Resources Board for specific source categories, without sufficient mitigation
ER4-3	*Greenhouse Gases (GHG) Emissions Reductions.* We will reduce GHG emissions in accordance with regional, state and federal regulations.
ER4-4	*Indoor Air Quality.* We will comply with State Green Building Codes relative to indoor air quality
ER4-5	*Transportation.* We promote mass transit and non-motorized mobility options (e.g. walking, biking) to reduce air pollutant emissions.
ER4-6	*Particulate Matter*. We support efforts to reduce particulate matter to meet State and Federal Clean Air Standards.
ER4-7	*Other Agency Collaboration.* We collaborate with other agencies within the South Coast Air Basin to improve regional air quality at the emission source.
ER4-8	*Tree Planting.* We protect healthy trees within the City and plant new trees to increase carbon sequestration and help the regional/local air quality.
Source: The Ontario Plan (City of Ontario 2010)	

SECTION 4: AIR QUALITY IMPACTS

This section quantifies the air emissions from the construction and operation of the project and determines the significance of these emissions within the context of significance thresholds as established under Appendix G of the CEQA Guidelines and by the SCAQMD's significance thresholds. This section also addresses land use guidelines established by the CARB in siting new sensitive receptors such as residences, schools, and hospitals in proximity to sources of toxics air contaminant emissions.

4.1 - Thresholds of Significance

4.1.1 - CEQA Significance Thresholds

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

- AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.
- AQ-2 Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- AQ-3 Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- AQ-4 Expose sensitive receptors to substantial pollutant concentrations.
- AQ-5 Create objectionable odors affecting a substantial number of people.

4.1.2 - South Coast Air Quality Management District Significance Thresholds

CEQA allows for the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. The SCAQMD has established thresholds of significance for air quality for construction activities and project operation within both a regional and local context as discussed below.

Regional Significance Thresholds

The regional thresholds apply to all aspects of the project including construction and operation and are used to apply significance to a project's regional impacts. The mass emission-based regional thresholds were established because a project's emissions could potentially contribute the basin's regional emission burden and affect air quality many miles away from a project location. The SCAQMD's regional significance thresholds are shown in Table 9.

Table 9: SCAQMD Regional Significance Thresholds

Mass Daily Thresholds[a]		
Pollutant	**Construction[b]**	**Operation[c]**
NO_X	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Source SCAQMD 1993		

Localized Significance Thresholds

The SCAQMD developed localized significance thresholds (LSTs) for emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at a project site. LSTs represent the maximum emissions at a project site that are not expected to cause or contribute to an exceedance of the most stringent federal or state AAQS. LSTs are based on the ambient concentrations of that pollutant within the project SRA and at the distance to the nearest sensitive receptor. LST analysis for construction is applicable for all projects of five acres and less. Projects larger than five acres can determine the localized significance for construction and operations by performing dispersion modeling. To provide for a worst case screening assessment of the project's localized construction impacts, the project's construction emissions were compared for a daily construction area of 5 acres and a distance to the nearest sensitive receptor of 25 meters even though the project construction area is larger than 5 acres. In accordance with the SCAQMD's LST methodology, only onsite construction emissions are estimated (off-site mobile-source emissions are not included the LST analysis) The relevant construction localized significance thresholds are shown in Table 10.

Table 10: SCAQMD Localized Significance Thresholds

Pollutant	Mass Daily Emission Rate (pounds/day)[1]
NO_X	270
PM_{10}	16
$PM_{2.5}$	9
CO	2,193
Notes: 1 Mass emission rate localized significance threshold for Source Receptor Area 33, 5 acre daily construction area, and a distance to nearest sensitive receptor of 25 meters Source: SCAQMD 2008	

CO Hot Spot Thresholds

Vehicular trips associated with the development of the proposed project could contribute to localized congestion at intersections and along roadway segments in the project vicinity resulting in potential local CO "hot spot" impacts. The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle travel speeds and idling time and, thus, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions such as during periods of little air movement, CO concentrations proximate to a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, schoolchildren, etc). High CO concentrations are typically associated with roadways or intersections operating at unacceptable levels of service or with very high traffic volumes. In areas with high ambient background CO concentrations or congested traffic, modeling is recommended to determine a project's effect on local CO levels.

Carbon monoxide (CO) "hot spot" thresholds ensure that emissions of CO associated with traffic impacts from a project in combination with CO emissions from existing and forecasted regional traffic do not exceed state or federal standards for CO at any traffic intersection impacted by the project. Project concentrations may be considered significant if a CO hot spot intersection analysis determines that project generated CO concentrations cause a localized violation of the following standards

- 1 hour = 20 parts per million
- 8 hour = 9 parts per million

Health Risk Significance Thresholds

The SCAQMD has also defined health risk significance threshold designed to be protective of exposures to toxic air contaminants. These thresholds are defined below.

- Maximum Incremental Cancer Risk: 10 in 1 million at the nearest sensitive receptor or offsite worker;
- Hazard Index (project increment) 1.0 or greater.

Cancer risk represents the probability (in terms of risk per million individuals) that an individual would contract cancer resulting from exposure to TACs continuously over a period of 70 years for sensitive receptors such as residences, schools, and hospitals. Thus, an individual located in an area with a cancer risk of one would experience a one chance in one million of contracting cancer over a 70-year period assuming that individual lives in that area continuously for the entire 70-year time period for a sensitive receptor. The thresholds apply to either the placement of a new sensitive receptor near an existing source of toxic air contaminant emissions or conversely, the siting of a new source of toxic air emissions near the locations of existing sensitive receptors.

4.1.3 - California Air Resources Board Land Use Recommendations

While only advisory in nature, the CARB has provided a set of recommendations for siting sensitive receptors near sources of toxic air contaminants such as freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities (CARB 2005). These recommendations are designed to provide land use decision-makers with the information to minimize the exposures of sensitive receptors to toxic air contaminants. Sensitive individuals refer to those segments of the population most susceptible to poor air quality (i.e., children, the elderly, and those with pre-existing serious health problems affected by air quality). Land uses where sensitive individuals are most likely to spend time include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities (sensitive sites or sensitive land uses). A summary of the CARB's land use siting recommendations for sensitive receptors is provided in Table 11.

Table 11: CARB Recommendations for Siting New Sensitive Receptors

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. Do not site new sensitive land uses in the same building with perc dry cleaning operations

Table 11 (cont.): CARB Recommendations for Siting New Sensitive Receptors

Source Category	Advisory Recommendations
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities
Source: CARB 2005	

4.2 - Methodology

The analysis of potential air quality impacts considers consistency of the project with adopted plans and policies that regulate air quality on the project site, as well as the compatibility of proposed uses with surrounding land uses. The determination of consistency with applicable air quality policies and rules and regulation is based upon a review of the previously identified planning documents that regulate land use or guide land use decisions pertaining to the project site. CEQA Guidelines §15125(d) requires that an EIR discuss inconsistencies with applicable plans that the decision-makers should address. Evaluations are made as to whether a project is inconsistent with such plans. Projects are considered consistent with General Plan provisions and general SCAG policies if they are compatible with the general intent of the plans and would not preclude the attainment of their primary goals.

The primary analysis tool used to estimate air emissions from the project was the SCAQMD California Emissions Estimator Model (CalEEMod) which was developed by the SCAQMD to assist in estimating air emissions from a variety of land uses. The CalEEMod model estimates emissions for construction and operational activities.

4.2.1 - Construction

Construction activities would temporarily generate VOC, NO_X, PM_{10}, and $PM_{2.5}$ emissions, which could result in adverse effects on short-term ambient air quality. Primary emission sources include mobile and stationary construction equipment exhaust, employee vehicle exhaust, dust from clearing and grading land, exposed soil eroded by wind, and VOC emissions from architectural coating and asphalt paving. Construction emissions vary substantially from day to day depending on the level and type of activity, types of equipment used, number of personnel, wind and precipitation conditions, and soil moisture content.

Emissions Estimations Assumptions

Based on the best available information provided by the City, the project construction phasing is shown in Table 12. Note that the information presented in this table is conceptual in nature as the actual development would depend on a whole host of economic and demand factors.

Table 12: Conceptual Project Development Schedule

Development Phase	Year	Planning Area	Description
1	2014	7 8	268 HDR DU 319 HDR DU
2	2017	4 5 6	96 LDR DU 141 LDR DU 124 LDR DU
3	2018	High School Grand Park (1st half)	2,500 students 65 acres
4	2020	1 2 3 Elementary School	99 MDR DU 122 MDR DU 157 MDR DU 850 students
5	2022	Grand Park (2nd half)	65 acres

DU = Dwelling Units
HDR = High Density Residential MDR = Medium Density Residential LDR = Low Density Residential
Source: City of Ontario 2013

The construction activities included demolition of existing structures, site preparation, mass grading, building construction, paving, worker vehicle and haul truck traffic, and application of architectural coatings. The duration of each construction activity and the associated construction equipment inventory was based on the default assumptions contained in the CalEEMod for the type of land use and intensity proposed in each development phase of the project. The details on the construction activities are provided in Appendix A.

Equipment Tiers and Emission Factors

Equipment tiers refer to a generation of emission standards established by the US EPA and CARB that apply to diesel engines in off-road equipment. The "tier" of an engine depends on the model year and horsepower rating; generally, the newer a piece of equipment is, the greater the tier it is likely to have. Excluding engines greater than 750 horsepower, Tier 1 engines were manufactured generally between 1996 and 2003. Tier 2 engines were manufactured between 2001 and 2007. Tier 3 engines were manufactured between 2006 and 2011. Tier 4 engines are the newest and some incorporate hybrid electric technology; they were manufactured after 2007 (SCAQMD 2011a).

CalEEMod contains an inventory of construction equipment that incorporates estimates of the number of equipment, their age, their horsepower, and equipment tier from which rates of emissions are developed. The off-road construction equipment tier mix assumed in the construction emissions was based on meeting the Tier 3 or higher exhaust emission limits. CalEEMod's off-road emission factors are based on the equipment populations from the OFFROAD2007 model.

4.2.2 - Operations

The build out of the Grand Park Specific Plan would generate emissions from stationary and mobile sources. These emissions contribute to the overall emission burden of the basin. Estimates of the project's operational emissions were made using the CalEEMod land use emission model and the proposed residential, educational, and park land uses. Emissions from stationary sources include natural gas combustion for energy and heating, landscaping equipment, and from personal household product use and painting. Mobile sources result from the vehicle exhaust as the residents travel within and beyond the specific plan. For this analysis, operational emissions were estimated for the horizon year 2030. The actual build out would ultimately be driven by market demand. The project's operational emissions were estimated using the CalEEMod land use emission model. The emission estimation assumed that there would be no wood fireplaces in new development, consistent with SCAQMD Rule 445. Therefore, it was assumed that all new fireplaces would be heated by natural gas.

Motor Vehicle Emissions

Motor vehicle emissions refer to exhaust and road dust emissions from the automobiles and delivery trucks that would travel to and from the project site. emissions from motor vehicles were estimated using CalEEMod.

To quantify mobile source operational emissions, the following information is required:

- Trip generation - the number of vehicles that are expected to move to and from the project site each day;
- Vehicle fleet mix - the mix of vehicle types (i.e., automobiles, trucks, gasoline or diesel-fueled, etc.);
- Trip lengths - the distance the vehicles travel; and
- Emission factors - the amount of emissions generated as a function of vehicle type, vehicle speed, and year for a given time or distance interval.

Trip Generation Rates

Trip generation quantifies the number of trips that a project generates each day during all facets of its operations. The trip generation is determined by multiplying an appropriate trip generation rate for a particular land use descriptive of the project by the quantity of that land use. Trip generation rates are determined for daily traffic, morning peak hour inbound and outbound traffic, and the evening peak hour inbound and outbound traffic for the proposed land use. The trip generation rates used for this project were derived from the traffic impact study prepared by Iteris (Iteris 2012) and are based on the trip generation rates contained in the Institute of Transportation Engineers Trip Generation Manual, 9th Edition. The trip generation rates applied in this assessment are shown in Table 13.

Table 13: Trip Generation Rates

Land Use	Unit	Trips/day/unit	Quantity	Trips/day
Single Family Homes	DU	9.57	484	4,632
Multiple Family Homes	DU	5.81	843	4,898
Elementary School	Students	1.29	850	1,097
High School	Student	1.71	2500	4,275
City Park	Acre	2.28	131	299
Total				**15,200**

DU = dwelling unit
Source: Iteris 2012

Vehicle Fleet Mix

The vehicle fleet mix is defined as the mix of motor vehicle classes active during the operation of the project. The vehicle fleet mix assumed in the assessment was taken from the default fleet mix contained in the CalEEMod.

Vehicle Trip Length

The trip length provides information on the purpose of a trip for each land use. For example, residential trips include home to work, home to shopping, and home to other. A home to work trip represents the trip from the home to the workplace. A home to shopping represents the trip from the home to a location where shopping takes place such as a retail location. A home to other trip represents all other trips generated from the home such as a school or place of entertainment. Each type of trip is assigned a length based on travel surveys. The trip lengths assumed in the assessment were derived from the default trip lengths in the CalEEMod model.

Emission Factors

Emission factors are assigned to the expected vehicle mix as a function of calendar year, vehicle class, speed, and fuel use (gasoline and diesel-powered vehicles). The emission factors assumed in the assessment were derived from the default emission factors contained in the CalEEMod model.

4.2.3 - Other Emissions Sources

The CalEEMod model was also used to estimate a variety of other types of emissions including emissions from indirect emissions from the generation of electricity to service the electrical needs of the project, electricity required to pump water to meet the demands of the project and to treat waste water, refrigerant leakage, and solid waste decomposition. These other emissions were estimated from the default assumptions contained in the CalEEMod model.

4.3 - Air Quality Impact Analysis

This section calculates the expected emissions and resulting air quality impacts from construction and operation of the project within the context of assessing the regulatory significance of project emissions on a regional and localized level under CEQA guidelines.

While the final determination of whether a project is significant is within the purview of the Lead Agency pursuant to Section 15064(b) of the CEQA Guidelines, SCAQMD recommends that its quantitative air pollution thresholds be used to determine the significance of project emissions. If the Lead Agency finds that the project has the potential to exceed these air pollution thresholds, the project should be considered to have significant air quality impacts.

The applicable SCAQMD thresholds are contained under each impact statement below.

4.3.1 - Impact Analysis

Consistency with Air Quality Management Plan

Impact AIR-1:	**The project would conflict with or obstruct implementation of the applicable air quality plan.**

Impact Analysis

According to the 1993 SCAQMD Handbook, there are two key indicators of consistency with the air quality management plan (AQMP):

1. Indicator 1: Whether the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP.
2. Indicator 2: A project would conflict with the AQMP if it would exceed the assumptions in the AQMP in 2010 or increments based on the year of project build-out and phase. The Handbook indicates that key assumptions to use in this analysis are population number and location and a regional housing needs assessment. The parcel-based land use and growth assumptions and inputs used in the Regional Transportation Model run by the Southern California Association of Governments that generated the mobile inventory used by the SCAQMD for AQMP are not available.

Considering the recommended criteria in the SCAQMD's 1993 Handbook, this analysis utilizes the following criteria to address this potential impact:

- Project's contribution to air quality violations (SCAQMD's first indicator)
- Assumptions in AQMP (SCAQMD's second indictor)

Project's Contribution to Air Quality Violations

According to the SCAQMD, the project is consistent with the AQMP if the project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations, or delay timely attainment of air quality standards or the interim emission reductions specified in the AQMP (South Coast Air Quality Management District 1993, page 12-3).

As shown in Impact AIR-2, the project could exceed the SCAQMD's localized significance thresholds during construction and, therefore, contribute substantially to an existing or projected air quality violation.

If a project's emissions exceed the SCAQMD regional thresholds for NO_X, VOC, PM_{10}, or $PM_{2.5}$, it follows that the emissions could cumulatively contribute to an exceedance of a pollutant for which the basin is in nonattainment (ozone, nitrogen dioxide, PM_{10}, $PM_{2.5}$) at a monitoring station in the basin. The thresholds are criteria for determining environmental significance and are discussed in the SCAQMD's 1993 Handbook for Air Quality Analysis.[3] An exceedance of a nonattainment pollutant at a monitoring station would not be consistent with the goals of the AQMP - to achieve attainment of pollutants.

As discussed in Impact AIR-3, the project would exceed the regional emission significance thresholds during construction and operation. This means that project emissions could combine with emissions from other sources in the basin and could result in an ozone, nitrogen dioxide, PM_{10}, or $PM_{2.5}$ exceedance at a nearby monitoring station. The basin is in nonattainment for these pollutants; therefore, the project would not be consistent with the AQMP. The project does not meet this indicator.

Assumptions in AQMP

The preparation of an AQMP is based, in part, on the growth and population projections contained in the general plans prepared by the various cities within SCAG. The latest AQMD was adopted by the SCAQMD in 2012. Because The Ontario Plan was adopted by the City in 2010, The Ontario Plan and its growth and population projections are presumed to be incorporated into the 2012 AQMP. The project is one of several specific plans contained within The Ontario Plan for future development. The project site is currently designated in The Ontario Plan as Residential-Low Density, Residential-Medium Density, Public School, and Open Space-Parkland which is consistent with the development of the proposed in the project. Therefore, the project is consistent with the future uses projected in The Ontario Plan. Since the project is consistent with the land use designations contained in the Ontario Plan, and The Ontario Plan has been accounted for in the development of the AQMD, the project meets this second indicator.

[3] The SCAQMD significance thresholds are at the following website: www.aqmd.gov/ceqa/handbook/signthres.pdf

Summary

The project could impede attainment because its emissions exceed the SCAQMD localized and regional significance thresholds. However, the project would be consistent with the policies, rules, and regulations in the AQMP.

Level of Significance Before Mitigation

Potentially significant.

Mitigation Measures

Mitigation Measures AQ-1 through AQ-6 are required (see Section 1.3).

Level of Significance After Mitigation

Significant and unavoidable with mitigation, the project would not exceed the SCAQMD's localized significance thresholds but would continue to exceed the SCAQMD's regional significance thresholds.

Potential for Air Quality Standard Violation

Impact AIR-2:	**The project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.**

Impact Analysis

Two indicators are used to assess the significance of this impact:

- Indicator 1: the localized significance threshold assessment of the project's construction. and
- Indicator 2: the CO hot spot analysis to assess localized air quality impacts during operations.

Localized Construction Impact Analysis

Localized Significance Thresholds

The evaluation of localized impacts determines the potential of the project to violate any air quality standard, contribute substantially to an existing or projected air quality violation, or expose nearby sensitive receptors to substantial pollutant concentrations. This analysis is also commonly referred to as a Localized Significance Threshold (LST) analysis. The SCAQMD developed Localized Significance Thresholds in response to the SCAQMD Governing Board's environmental justice initiatives in recognition of the fact that criteria pollutants such as CO, NO_X, and PM_{10} and $PM_{2.5}$ in particular, can have local impacts as well as regional impacts. Localized significance thresholds represent the maximum emissions or air concentrations from a project that would not cause or contribute to an exceedance of the most stringent applicable federal or State ambient air quality standard at any nearby sensitive or worker receptor. The localized significance thresholds for construction were defined earlier in Table 10.

Based on the project's construction phasing, the estimated onsite construction emissions are shown in Table 14 by year and pollutant. The maximum daily emissions shown in the table reflect the total

emissions that occur on any day including days when construction phases overlap during several construction phases and years.

Table 14: Localized Construction Emissions

Year	Maximum Daily Emissions (pounds/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
2014	50.3	56.6	10.7	7.0
2015	20.5	24.9	1.8	1.8
2016	20.5	22.8	1.7	1.8
2017	50.3	56.6	10.7	7.0
2018	148.1	114.5	15.2	**10.4**
2019	59.9	69.7	3.8	3.8
2020	62.0	121.3	7.8	5.4
2021	35.3	68.6	1.5	1.5
2022	75.7	91.6	6.0	3.8
2023	51.7	85.6	3.0	3.0
2024	12.1	22.0	0.5	0.5
2025	11.0	22.0	0.4	0.4
2026	15.6	22.0	1.0	1.0
Maximum Daily Emissions	148.1	121.3	15.2	10.4
SCAQMD Localized Significance Threshold(1)	270	2,193	16	9
Exceeds Threshold?	No	No	No	Yes

Notes:
1 Based on a daily construction area of 5 acres in Source Receptor Area 33 and a distance to sensitive receptor of 25 meters.
Source: see Appendix A

As noted from the above table, the construction emissions from the project would exceed the SCAQMD's localized significance thresholds for $PM_{2.5}$ during 2018 due mainly to time periods when the construction activities of more than one development phase overlap (Phase 2 and Phase 3). Therefore, this would result in a significant local impact.

Carbon Monoxide Hot Spot Analysis

Carbon monoxide (CO) "hot spot" thresholds ensure that emissions of CO associated with traffic impacts from a project in combination with CO emissions from existing and forecasted regional traffic do not exceed state or federal standards for CO at any traffic intersection impacted by the project. Project concentrations may be considered significant if a CO hot spot intersection analysis determines that project generated CO concentrations cause a localized violation of the state CO 1-

hour standard of 20 ppm, state CO 8-hour standard of 9 ppm, federal CO 1-hour standard of 35 ppm, or federal CO 8-hour standard of 9 ppm.

A carbon monoxide (CO) hot spot is a localized concentration of CO that is above the state or federal 1-hour or 8-hour CO ambient air standards. Localized high levels of CO are associated with traffic congestion and idling or slow-moving vehicles. To provide a worst-case scenario, CO concentrations are estimated at project-impacted intersections, where the concentrations would be the greatest.

This analysis follows guidelines recommended by the CO Protocol (University of California, Davis 1997) and the SCAQMD. According to the CO Protocol, intersections with Level of Service (LOS) E or F require detailed analysis. In addition, intersections that operate under LOS D conditions in areas that experience meteorological conditions favorable to CO accumulation require a detailed analysis. The SCAQMD recommends that a local CO hot spot analysis be conducted if the intersection meets one of the following criteria: 1) the intersection is at LOS D or worse and where the project increases the volume to capacity ratio by 2 percent, or 2) the project decreases LOS at an intersection from C to D.

For this project analysis, it was not feasible nor necessary to conduct CO hotspot analyses on all the intersections at LOS E or worse assessed in the project traffic study. All affected intersections demonstrating a LOS of E or F prior to any traffic mitigation were first identified. Then, these intersections with the highest traffic volumes The top five intersections with the largest peak hour traffic volumes and a LOS E or F before traffic mitigation were identified for two scenarios based on traffic information presented in the project traffic impact study (Iteris 2012).

- Scenario 1: Existing year (2012) plus project; and
- Scenario 2: Horizon year (2030) plus project

Scenario 1 represents a worst-case situation wherein it is assumed that the entire project is build and operating in 2012 notwithstanding that the project consists of a multi-phase, multi-year development. Scenario 2 represents the project operation consistent with the 2030 future planning year contained in The Ontario Plan.

The traffic information contained in the traffic impact study indicates that under the existing plus project condition, all intersections would operate at acceptable levels of service during peak hours of traffic, that is, no intersection operates at a LOS of E or F. Therefore, no hot spot analysis was prepared for Scenario 1. For Scenario 2, only 2 intersections were found to have a LOS of E or F during peak hours. Therefore, these two intersections were analyzed for a CO hot spot.

For the CO hot spot analysis, the CO concentrations were estimated using the CALINE4 model using 2030 emission factors for Scenario 2. The estimated CO concentrations for Scenario 2 are shown in Table 15. As shown in this table, the estimated 1-hour and 8-hour average CO concentrations from

project generated and cumulative traffic plus the background concentrations are below the state and federal standards. No CO hot spots are anticipated because of traffic-generated emissions by the project in combination with other anticipated development in the area. Therefore, the mobile emissions of CO from the project are not anticipated to contribute substantially to an existing or projected air quality violation of CO. Consequently, according to this criterion, air pollutant emissions during operation would result in a less than significant impact.

Table 15: Carbon Monoxide Local Hot Spot Assessment (Horizon Year + Project)

Intersection	Peak Hour	CO Concentration (ppm)		Significant Impact?
		1 Hour	8 Hour	
1. Archibald Ave / SR-60 West bound Ramp	PM	3.2	2.2	No
2. Archibald Ave / SR-60 Eastbound Ramp	PM	3.1	2.1	No

Notes:
- ppm = parts per million
- The traffic volumes are from the traffic study from Iteris 2012
- The concentrations are derived from the CALINE4 model using emission factors for the year 2030.
- The 1 hour concentration is the CALINE4 output (see Appendix B for model output) includes the 1 hour background concentration of 3 ppm (from Table 2).
- The 8 hour project increment was calculated by multiplying the 1 hour CALINE4 value by 0.7 (persistence factor) and adding a background concentration of 1.83 ppm.
- The existing background concentrations are appropriate because CO emissions in the future are expected to decrease.
- A significant impact would occur if the estimated CO concentration is over the 1 hour state standard of 20 ppm or the 8 hour state/federal standard of 9 ppm.

Level of Significance Before Mitigation

Potentially significant.

Mitigation Measures

Mitigation Measures AQ-1 to AQ-3 are required (see Section 1.3).

Level of Significance After Mitigation

Less than significant

Cumulative Impacts

Impact AIR-3: **The project would result in a cumulatively considerable net increase of criteria pollutants for which the project region is in nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).**

Impact Analysis

To result in a less than significant impact, the following criteria must be true:

1. Regional analysis: emissions of nonattainment pollutants must be below the regional significance thresholds

2. Summary of projections: the project must be consistent with current air quality attainment plans including control measures and regulations. This is an approach consistent with Section 15130(b) of the CEQA Guidelines.

3. Cumulative health impacts: the project must result in less than significant cumulative health effects from the nonattainment pollutants.

Criterion 1: Regional Analysis

If an area is in nonattainment for a criteria pollutant, then the background concentration of that pollutant has historically exceeded the ambient air quality standard. It follows that if a project exceeds the regional threshold for that nonattainment pollutant, then it would result in a cumulatively considerable net increase of that pollutant and result in a significant cumulative impact.

The South Coast Air Basin is in nonattainment for PM_{10}, $PM_{2.5}$, nitrogen dioxide, and ozone. Therefore, if the project exceeds the regional thresholds for PM_{10}, or $PM_{2.5}$, then it contributes to a cumulatively considerable impact for those pollutants. If the project exceeds the regional threshold for NO_X or VOC, then it follows that the project would contribute to a cumulatively considerable impact for ozone. If the project exceeds the NO_X threshold, it could contribute cumulatively to nitrogen dioxide concentrations. The project's regional emissions during both construction and operations are discussed below.

Regional Construction Emissions

Table 16 summarizes regional construction-related emissions. The emissions represent the total emissions for all the phases during each construction year. For the assumptions used in generating the emissions, please refer to Section 4.2 of this report. The information shown in Table 16 indicates that the SCAQMD regional emission thresholds would be exceeded for VOC and NO_X in certain years when the construction of several construction phases would overlap. Therefore, without mitigation, the short-term construction emissions are considered to have a significant regional impact.

Table 16: Construction Regional Air Pollutant Emissions

Year	Maximum Daily Emissions (pounds per day)				
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2014	7.9	50.4	57.8	10.9	7.0
2015	6.4	31.0	53.2	8.4	2.3
2016	**131.6**	30.2	51.2	8.4	2.3
2017	7.9	50.4	57.6	10.9	7.0
2018	22.3	**153.0**	124.5	18.1	10.6
2019	11.6	70.2	131.0	8.5	4.3

Table 16 (cont.): Construction Regional Air Pollutant Emissions

Year	Maximum Daily Emissions (pounds per day)				
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2020	**92.7**	71.9	137.6	12.8	5.8
2021	8.8	46.1	90.1	8.7	2.0
2022	15.4	85.9	112.6	14.1	4.1
2023	**105.2**	56.7	97.7	7.9	3.3
2024	2.1	12.1	22.0	0.5	0.5
2025	2.0	11.0	22.0	0.4	0.4
2026	2.5	15.6	21.9	1.2	1.0
2027	0.2	1.1	1.8	0.1	0.1
Significance Threshold	75	100	550	150	55
Significant Impact?	Yes	Yes	No	No	No

Notes:
- Exceedances of the threshold are shown in **bold** and shaded font.
- The emissions account for the overlapping of construction phases in particular years
- Emissions assume compliance with SCAQMD Rule 403.

VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide
PM_{10} and $PM_{2.5}$ = particulate matter
Source of emissions: Appendix A: CalEEMod Output and spreadsheet summaries prepared by Michael Brandman Associates.
Source of significance thresholds: South Coast Air Quality Management District 2011a.

Operational Regional Emissions: Horizon Year - 2030

Operational emissions from emission sources generated both onsite and offsite as derived from CalEEMod are shown in Table 17 for the summer season. The vehicle emissions represent emissions from travel to and from the project within the South Coast Air Basin. As shown in Table 17, the project's emissions of VOC, NO_X, and PM_{10} exceed the SCAQMD's regional thresholds and are considered significant. Emissions during the winter are also significant. Emissions of SO_X are less than significant in both the summer and winter seasons.

Table 17: Operational Regional Air Pollutant Emissions (Horizon Year 2030)

Year	Maximum Daily Emissions (pounds per day)				
	VOC	NO_X	CO	PM_{10}	$PM_{2.5}$
2030	**98.5**	129.6	482.5	**182.5**	12.8
Significance Threshold	55	55	550	150	55
Significant Impact?	Yes	Yes	No	Yes	No

Notes:
- Exceedances of the threshold are shown in **bold** shaded font.
VOC = volatile organic compounds NO_X = nitrogen oxides CO = carbon monoxide
PM_{10} and $PM_{2.5}$ = particulate matter
Source of emissions: Appendix A: CalEEMod Output and spreadsheet summaries prepared by Michael Brandman Associates.
Source of significance thresholds: South Coast Air Quality Management District 2011a.

Criterion 3: Plan Approach

Section 15130(b) of the CEQA Guidelines states the following:

> The following elements are necessary to an adequate discussion of significant cumulative impacts: 1) Either: (A) A list of past, present, and probable future projects producing related or cumulative impacts, including, if necessary, those projects outside the control of the agency, or (B) A summary of projections contained in an adopted general plan or related planning document, or in a prior environmental document which has been adopted or certified, which described or evaluated regional or area wide conditions contributing to the cumulative impact.

In accordance with CEQA Guidelines 15130(b), this analysis of cumulative impacts is based on a summary of projections. This analysis is based on the 2003 and 2007 AQMPs. The South Coast Air Basin is in nonattainment for ozone, particulate matter (PM_{10} and $PM_{2.5}$), and nitrogen dioxide, which means that concentrations of those pollutants currently exceed the ambient air quality standards for those pollutants. When concentrations of ozone, PM_{10}, $PM_{2.5}$, and nitrogen dioxide exceed the ambient air quality standard, then those sensitive to air pollution (i.e., children, elderly, sick) could experience health effects such as decrease of pulmonary function and localized lung edema in humans and animals, increased mortality risk, and risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans.

Under the CEQA Guidelines identified above, cumulative impacts may be analyzed using other plans that evaluate relevant cumulative effects. The AQMPs describe and evaluate the future projected emissions sources in the South Coast Air Basin and sets forth a strategy to meet both state and federal Clean Air Act planning requirements and federal ambient air quality standards. Therefore, the AQMPs are relevant plans for a CEQA cumulative impacts analysis. The 2003 AQMP updates the

attainment demonstration for the federal standards for ozone and PM_{10}; replaces the 1997 attainment demonstration for the federal CO standard and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the federal nitrogen dioxide standard that the South Coast Air Basin has met since 1992. The 2007 AQMP focuses on ozone and $PM_{2.5}$. The AQMP also incorporates significant new scientific data, emission inventories, ambient measurements, control strategies, and air quality modeling.

The geographic scope for cumulative criteria pollution from air quality impacts is the South Coast Air Basin, because that is the area in which the air pollutants generated by the sources within the basin circulate and disperse. The SCAQMD is required to prepare and maintain an AQMP and a State Implementation Plan to document the strategies and measures to be undertaken to reach attainment of ambient air quality standards. While the SCAQMD does not have direct authority over land use decisions, it is recognized that changes in land use and circulation planning are necessary to maintain clean air. The SCAQMD evaluated the entire Basin when it developed the AQMP.

In accordance with CEQA Guidelines section 15064, subdivision (h)(3), a lead agency may determine that a project's incremental contribution to a cumulative effect is not cumulatively considerable if the project complies with the requirements in a previously approved plan or mitigation program. As identified in Impact AIR-1, the project complies with the control measures in the AQMP and all of the SCAQMD's applicable rules and regulations. Because the project exceeds the SCAQMD's CEQA significance threshold prior to mitigation, the analysis contained in Impact AIR-1 demonstrates that the project is not consistent with the most recent AQMP and State Implementation Plan without mitigation. Therefore, the project presents a significant impact according to this criterion.

Criterion 4: Cumulative Health Impacts

The Basin is in nonattainment for ozone, nitrogen dioxide, PM_{10}, and $PM_{2.5}$, which means that the background levels of those pollutants are at times higher than the ambient air quality standards. The air quality standards were set to protect public health, including the health of sensitive individuals (such as the elderly, children, and the sick). Therefore, when the concentration of those pollutants exceeds the standard, it is likely that some sensitive individuals in the population would experience health effects that were described in Table 4. However, the health effects are a factor of the dose-response curve. Concentration of the pollutant in the air (dose), the length of time exposed, and the response of the individual are factors involved in the severity and nature of health impacts. If a significant health impact results from project emissions, it does not mean that 100 percent of the population would experience health effects.

The regional analysis indicates that without mitigation, the project would exceed the SCAQMD regional significance thresholds for VOC and NO_X (ozone precursors). Because ozone is a secondary pollutant (it is not emitted directly but formed by chemical reactions in the air), it can be formed miles downwind of the project site. Project emissions of VOC and NO_X may contribute to the background

concentration of ozone and cumulatively cause health effects. Impacts may include the following: irrigation to respiratory system; reduce lung function; breathing pattern changes; reduction of breathing capacity; inflame and damage cells that line the lungs; make lungs more susceptible to infection; aggravate asthma; aggravate other chronic lung diseases; cause permanent lung damage; some immunological changes; increased mortality risk; vegetation and property damage. Children who live in high ozone communities and who participate in multiple sports have been observed to have a higher asthma risk. This is a significant cumulative health impact associated with ground-level ozone concentrations.

Additionally, the project could result in a significance cumulative contribution to PM_{10}. Sensitive individuals may experience health impacts when concentrations of those pollutants exceed the ambient air quality standards. Health impacts from particulate matter may include the following:

- Short-term exposure (hours/days): irritation of the eyes, nose, throat; coughing; phlegm; chest tightness; shortness of breath; aggravate existing lung disease, causing asthma attacks and acute bronchitis; those with heart disease can suffer heart attacks and arrhythmias.
- Long-term exposure: reduced lung function; chronic bronchitis; death.

The project could result in a significant impact to nitrogen dioxide. The potential effects from nitrogen dioxide may include the following:

- Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups;
- Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and/or
- Contribution to atmospheric discoloration.

Level of Significance Before Mitigation

Potentially significant.

Mitigation Measures

Mitigation Measures AQ-1 through AQ-6 are required (see Section 1.3).

Level of Significance After Mitigation

Significant and unavoidable impact.

Sensitive Receptors

Impact AIR-4:	**The project would not expose sensitive receptors to substantial pollutant concentrations.**

Impact Analysis

Sensitive Receptors

Those individuals who are sensitive to air pollution include children, the elderly, and persons with preexisting respiratory or cardiovascular illness. For purposes of CEQA, the SCAQMD considers a sensitive receptor to be a location where a sensitive individual could remain for 24 hours, such as residences, hospitals, or convalescent facilities (South Coast Air Quality Management District 2008). Commercial and industrial facilities are not included in the definition because employees do not typically remain onsite for 24 hours. However, when assessing the impact of pollutants with 1-hour or 8-hour standards (such as nitrogen dioxide and carbon monoxide), commercial and/or industrial facilities would be considered sensitive receptors for those purposes, according to the SCAQMD localized significance threshold guidance (South Coast Air Quality Management District 2008).

Localized Significance Threshold Analysis

The localized construction analysis uses thresholds that represent the maximum emissions for a project that would not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard (South Coast Air Quality Management District 2008). The thresholds are developed based on the ambient concentrations of that pollutant for each source receptor area and on the location of the sensitive receptors. If the project results in emissions under those thresholds, it follows that the project would not cause or contribute to an exceedance of the standard. The standards are set to protect the health of sensitive individuals. If the standards are not exceeded at the sensitive receptor locations, it follows that the receptors would not be exposed to substantial pollutant concentrations.

As identified in Impact AIR-2, the localized impact analysis demonstrated that the project would exceed the localized thresholds for $PM_{2.5}$ during the construction year 2018 Therefore, the project would expose sensitive receptors to substantial pollutant concentrations of $PM_{2.5}$.

Health effects from particulate matter can include the following: (a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and/or (c) Increased risk of premature death from heart or lung diseases in the elderly. Daily fluctuations in $PM_{2.5}$ levels have been related to hospital admissions for acute respiratory conditions, school absences, and increased medication use in children and adults with asthma.

CO Hot Spot Analysis

A CO hot spot analysis is the appropriate tool to determine if project emissions of CO during operation would exceed ambient air quality standards. The main source of air pollutant emissions during operation are from offsite motor vehicles traveling on the roads surrounding the project. The

CO hot spot analysis demonstrated that emissions of CO during operation would not result in an exceedance of the most stringent ambient air quality standards for CO. The standards are set to protect the health of sensitive individuals. If the standards are not exceeded, then the sensitive individuals would not be significantly impacted. As shown in Impact AIR-2, impacts are less than significant. Therefore, according to this criterion, air pollutant emissions during operation would result in a less than significant impact.

Toxic Air Contaminants - Sensitive Receptors

Significance Thresholds

While the SCAQMD has established numerical health risk significance thresholds, this assessment relied on adhering to the ARB Land Use siting recommendations and the State of California Education and Resource Codes to determine potential health risks to the residents and school children that comprise the project. Table 18compares the ARB land use siting recommendations with the project site.

Table 18: Project Compliance with CARB Recommendations for Siting New Sensitive Receptors

Source Category	Advisory Recommendations	Project Compliance
Freeways and High-Traffic Roads	• Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles/day, or rural roads with 50,000 vehicles/day.	• Nearest freeway is Interstate 15 which is approximately 9,000 feet east of the project • There are no urban roads with 100,000 vehicles per day within 500 feet of the project • Project meets this recommendation
Distribution Centers	• Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.	• The nearest distribution center to the project is located approximately 11,000 feet east of the project • Project meets this recommendation
Rail Yards	• Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard. • Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.	• The nearest major service and maintenance rail yard is located 20,000 feet northeast of the project. • Project meets this recommendation

Table 18 (cont.): Project Compliance with CARB Recommendations for Siting New Sensitive Receptors

Source Category	Advisory Recommendations	Project Compliance
Ports	• Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or the ARB on the status of pending analyses of health risks	• The nearest port is located approximately 36 miles southwest of the project and would not be impacted by the port • Project meets this recommendation
Refineries	• Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation	• The nearest refinery is located approximately 45 miles west of the project and would not be impacted by the refinery • Project meets this recommendation.
Chrome Platers	• Avoid siting new sensitive land uses within 1,000 feet of a chrome plater	• There are no chrome plating facilities within 1,000 feet of the project • Project meets this recommendation
Dry Cleaners Using Perchloroethylene	• Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district. • Do not site new sensitive land uses in the same building with perc dry cleaning operations	• There are no dry cleaners within 500 feet of the project • Project meets this recommendation
Gasoline Dispensing Facilities	• Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50 foot separation is recommended for typical gas dispensing facilities	• There are no gas dispensing facilities within 300 feet of the project. • Project meets this recommendation.
Source: CARB 2005.		

Public Resources Code Section 21151.8 and Education Code Section 17213 prohibit the approval of an environmental impact report or negative declaration for a project involving the purchase of a school site or construction of a new elementary or secondary school unless the school site would not be impacted by proximity to sources of toxic air contaminants as shown in Table 19. If the school site is located within the specified distances, then it must be demonstrated through air dispersion modeling that the air quality at the proposed site is such that neither short term nor long term exposure poses significant health risks to pupils:

Table 19: Project Compliance with State Codes

Code	Requirement	Project Compliance
Public Resources Code Section 21151.8	Facilities located within a 1/4 mile radius of the proposed site that might reasonably emit hazardous or acutely hazardous air emissions have been identified	• There are no know sources of toxic air contaminants within 0.25 mile of the school site • Project meets this requirement
Education Code Section 17213	A school site located within 500 feet from the edge of a freeway traffic lane or busy traffic corridor	• There are no freeways or busy traffic corridors located within 500 feet of the school site • Project meets this requirement

Summary

The project would exceed the SCAQMD's localized construction significance threshold for $PM_{2.5}$ during construction but would not cause a localized CO hot spot during operations nor expose residents or students to toxic air contaminants.

Level of Significance Before Mitigation

Potentially significant.

Mitigation Measures

Mitigation Measures AQ-1 to AQ-3 are required (see Section 1.3).

Level of Significance After Mitigation

Less than significant.

Objectionable Odors

Impact AIR-5:	**The project would not create objectionable odors affecting a substantial number of people.**

Impact Analysis

Background Information

Odors can cause a variety of responses. The impact of an odor results from interacting factors such as frequency (how often), intensity (strength), duration (in time), offensiveness (unpleasantness), location, and sensory perception.

Odor is typically a warning system that prevents animals and humans from consuming spoiled food or toxic materials. Odor-related symptoms reported in a number of studies include nervousness, headache, sleeplessness, fatigue, dizziness, nausea, loss of appetite, stomach ache, sinus congestion, eye irritation, nose irritation, runny nose, sore throat, cough, and asthma exacerbation (South Coast Air Quality Management District 2007a).

The SCAQMD's role is to protect the public's health from air pollution by overseeing and enforcing regulations (South Coast Air Quality Management District 2007a). The SCAQMD's resolution activity for odor compliance is mandated under California Health & Safety Code Section 41700, and falls under SCAQMD Rule 402. This rule on Public Nuisance Regulation states: "A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule shall not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals."

The SCAQMD indicates that the number of overall complaints has declined over the last five years. Over the last four years, odor complaints make up 50 to 55 percent of the total nuisance complaints. Over the past decade, odors from paint and coating operations have decreased from 27 to 7 percent and odors from refuse collection stations have increased from 9 to 34 percent (South Coast Air Quality Management District 2007a).

Project Analysis

The SCAQMD recommends that odor impacts be addressed in a qualitative manner. Such an analysis shall determine whether the project would result in excessive nuisance odors, as defined under the California Code of Regulations and Section 41700 of the California Health and Safety Code, and thus would constitute a public nuisance related to air quality.

Diesel exhaust and VOCs would be emitted during construction of the project, which are objectionable to some; however, emissions would disperse rapidly from the project site and therefore should not reach an objectionable level at the nearest sensitive receptors.

Land uses typically considered associated with odors include wastewater treatment facilities, waste-disposal facilities, or agricultural operations. The project does not contain land uses typically associated with emitting objectionable odors. However, future residential development would involve minor odor-generating activities such as backyard barbeque smoke, lawn mower exhaust, application of exterior paints fro home improvement, etc. These types of odors are typical of residential communities and are not considered significant air quality impacts.

As noted in The Ontario Plan Environmental Impact Report (City of Ontario 2009), much of the NMC is currently used for dairy production and other livestock use. Conversion of these agricultural areas to nonagricultural land uses has the potential to expose people to objectionable odors because the new sensitive uses would be adjacent to agricultural uses. In January 2001, the City adopted the Agricultural Overlay Zone, or the Right to Farm ordinance, to act as a "buffering" device between existing agricultural uses and urban development (Ontario Municipal Code, Section 6, Ordinance 2726). Homeowners near existing farm uses would be given notice, in the form of a deed disclosure,

that agricultural nuisances (odors, noises, etc.) may be present and that they have a right to exist as long as the land is not developed otherwise. The Right to Farm ordinance would allow for the continuation of agricultural uses even though odor complaints may arise from the proximity of such agricultural uses to new residential uses. However, at build out of The Ontario Plan, no agricultural uses are anticipated to remain in the New Model Colony. Consequently, these impacts would be temporary.

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant.

SECTION 5: GREENHOUSE GAS IMPACT ANALYSIS

5.1 - CEQA Guidelines

CEQA Guidelines define a significant effect on the environment as "a substantial, or potentially substantial, adverse change in the environment." To determine if a project would have a significant impact on greenhouse gases, the type, level, and impact of emissions generated by the project must be evaluated.

The following greenhouse gas significance thresholds are contained in Appendix G of the CEQA Guidelines, which were amendments adopted into the Guidelines on March 18, 2010, pursuant to SB 97. A significant impact would occur if the project would:

(a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; or

(b) Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.

5.2 - Impact Analysis

Greenhouse Gas Inventory

Impact AIR-6:	**The project would not generate greenhouse gas emissions, either directly or indirectly, that would have a significant impact on the environment**

Impact Analysis

Thresholds of Significance

A variety of agencies have developed greenhouse gas emission thresholds and/or have made recommendations for how to identify a threshold. However, the thresholds for projects in the jurisdiction of the SCAQMD remain in flux. The California Air Pollution Control Officers Association explored a variety of threshold approaches, but did not recommend one approach (2008). The ARB recommended approaches for setting interim significance thresholds (California Air Resources Board 2008b), in which a draft industrial project threshold suggests that non-transportation related emissions under 7,000 $MTCO_2e$ per year would be less than significant; however, the ARB has not approved those thresholds and has not published anything since then. The Bay Area Air Quality Management District and the San Joaquin Valley Air Pollution Control District have both developed greenhouse gas thresholds. However, those thresholds are not applicable to the project since the project is under the jurisdiction of the SCAQMD. The SCAQMD is in the process of developing thresholds, as discussed below.

SCAQMD Threshold Development

On December 5, 2008, the SCAQMD Governing Board adopted an interim greenhouse gas significance threshold for stationary sources, rules, and plans where the SCAQMD is lead agency (SCAQMD permit threshold). The SCAQMD permit threshold consists of five tiers, as follows:

- Tier 1 consists of evaluating whether or not a project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether or not the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 is a screening threshold level to determine significance using a 90 percent emission capture rate approach and is 10,000 $MTCO_2e$ per year (with construction emissions amortized over 30 years and added to operational emissions).
- Tier 4 was not approved in the interim greenhouse gas threshold.
- Tier 5 would allow the project proponent to purchase offsite mitigation to reduce greenhouse gas emissions to less than the screening level (in Tier 3).

The SCAQMD is in the process of preparing recommended significance thresholds for greenhouse gases for local lead agency consideration ("SCAQMD draft local agency threshold"); however, the SCAQMD Board has not approved the thresholds as of the date of the NOP (SCAQMD 2010). The current draft thresholds consist of the following tiered approach:

- Tier 1 consists of evaluating whether or not the project qualifies for any applicable exemption under CEQA.
- Tier 2 consists of determining whether or not the project is consistent with a greenhouse gas reduction plan. If a project is consistent with a qualifying local greenhouse gas reduction plan, it does not have significant greenhouse gas emissions.
- Tier 3 consists of screening values, which the lead agency can choose, but must be consistent with all projects within its jurisdiction. A project's construction emissions are averaged over 30 years and are added to a project's operational emissions. If a project's emissions are under one of the following screening thresholds, then the project is less than significant:
  - All land use types: 3,000 $MTCO_2e$ per year
  - Based on land use type: residential: 3,500 $MTCO_2e$ per year; commercial: 1,400 $MTCO_2e$ per year; or mixed use: 3,000 $MTCO_2e$ per year
- Tier 4 has the following options:
  - Option 1: Reduce emissions from business as usual by a certain percentage; this percentage is currently undefined

- Option 2: Early implementation of applicable AB 32 Scoping Plan measures
- Option 3, 2020 target for service populations (SP), which includes residents and employees: 4.8 $MTCO_2e$/SP/year for projects and 6.6 $MTCO_2e$/SP/year for plans;
- Option 3, 2035 target: 3.0 $MTCO_2e$/SP/year for projects and 4.1 $MTCO_2e$/SP/year for plans

- Tier 5 involves mitigation offsets to achieve target significance threshold.

The SCAQMD discusses its draft thresholds in the following excerpt (South Coast Air Quality Management District 2008c):

> The overarching policy objective with regard to establishing a GHG [greenhouse gas] significance threshold for the purposes of analyzing GHG impacts pursuant to CEQA is to establish a performance standard or target GHG reduction objective that will ultimate contribute to reducing GHG emissions to stabilize climate change. Full implementation of the Governor's Executive Order S-3-05 would reduce GHG emissions 80 percent below 1990 levels or 90 percent below current levels by 2050. It is anticipated that achieving the Executive Order's objective would contribute to worldwide efforts to cap GHG concentrations at 450 ppm, thus, stabilizing global climate.
>
> As described below, staff's recommended interim GHG significance threshold proposal uses a tiered approach to determining significance. Tier 3, which is expected to be the primary tier by which the AQMD will determine significance for projects where it is the lead agency, uses the Executive Order S-3-05 goal as the basis for deriving the screening level. Specifically, the Tier 3 screening level for stationary sources is base on an emission capture rate of 90 percent for all new or modified projects. A 90 percent emission capture rate means that 90 percent of total emissions from all new or modified stationary source projects would be subject to some type of CEQA analysis, including a negative declaration, a mitigated negative declaration, or an environmental impact.
>
> Therefore, the policy objective of staff's recommended interim GHG significance threshold proposal is to achieve an emission capture rate of 90 percent of all new or modified stationary source projects. A GHG significance threshold based on a 90 percent emission capture rate may be more appropriate to address the long-term adverse impacts associated with global climate change. Further, a 90 percent emission capture rate sets the emission threshold low enough to capture a substantial fraction of future stationary source projects that will be constructed to accommodate future statewide population and economic growth, while setting the emission threshold high enough to exclude small projects that will in aggregate contribute a relatively small fraction of the cumulative statewide GHG emissions. This assertion is based on the fact that staff estimates that these GHG emissions would account for less than one percent of future 2050 statewide GHG emissions target (85 MMTCO2e/yr). In addition,

these small projects would be subject to future applicable GHG control regulations that would further reduce their overall future contribution to the statewide GHG inventory.

In summary, the SCAQMD's draft threshold uses the Executive Order S-3-05 goal as the basis for the Tier 3 screening level.

Thresholds of Significance for this Project

To determine whether the project is significant, this project utilizes the SCAQMD draft local agency tiered threshold. The threshold is as follows:

- Tier 1: The project is not exempt under CEQA; go to Tier 2.
- Tier 2: There is no greenhouse gas reduction plan applicable to the project; go to Tier 3.
- Tier 3: project greenhouse gas emissions compared with the threshold: 3,000 $MTCO_2e$ per year (see analysis below).
- Tier 4, Option 1: Reduce greenhouse gas emissions from business as usual[4] by 28.4 percent. The California 2020 emissions target is 427 $MMTCO_2e$ and the 2020 baseline (without any AB 32 related regulations) is 596 $MMTCO_2e$ (CARB 2008c). Therefore, a 28.4 percent reduction is required to reduce emissions to the target. Note that the most recent forecast of 2020 emissions is 506.8 MMTCO2e, which includes reductions from regulations such as Pavley I and the Renewable Portfolio Standard (CARB 2010a).
- Tier 4, Option 3, 2035 Target: 4.8 $MTCO_2e$/SP/year (see analysis below).

Business as usual greenhouse gas emissions refer to emissions using protocol and emission factors from the period of 2004-2006 (prior to the adoption of AB 32 and related greenhouse gas regulations) and also do not take into account project design features or mitigation measures to reduce greenhouse gas emissions. The California Air Resources Board's Scoping Plan indicates that business as usual is "projected emissions in 2020 without any greenhouse gas reduction measures (business-as-usual case). The 2020 business-as-usual forecast does not take any credit for reductions from measures included in this Plan, including the Pavley greenhouse gas emissions standards for vehicles, full implementation of the Renewables Portfolio Standard beyond current levels of renewable energy, or the solar measures" (CARB 2008). As noted in Section 3.4, Regulatory Environment, ARB re-approved the Scoping Plan in 2011 and adopted a supplement to the plan that called for a GHG reduction of 16 percent from business-as-usual emission levels projected for 2020 (CARB 2011).

Section 15064.4(b) of the CEQA Guideline amendments for greenhouse gas emissions state that a lead agency may take into account the following three considerations in assessing the significance of impacts from greenhouse gas emissions.

[4] Business as usual for purposes of the greenhouse gas significance threshold is defined as pre-AB 32.

Consideration #1: The extent to which the project may increase or reduce greenhouse gas emissions as compared to the existing environmental setting.

Consideration #2: Whether the project emissions exceed a threshold of significance that the lead agency determines applies to the project.

Consideration #3: The extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of greenhouse gas emissions. Such regulations or requirements must be adopted by the relevant public agency through a public review process and must include specific requirements that reduce or mitigate the project's incremental contribution of greenhouse gas emissions. If there is substantial evidence that the possible effects of a particular project are still cumulatively considerable notwithstanding compliance with the adopted regulations or requirements, an EIR must be prepared for the project.

Greenhouse Gas Inventory

This analysis is restricted to greenhouse gases identified by AB 32, which include carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride. The project would generate a variety of greenhouse gases during construction and operation, including several defined by AB 32 such as carbon dioxide, methane, and nitrous oxide.

The project may also emit greenhouse gases that are not defined by AB 32. For example, the project may generate aerosols. Aerosols are short-lived particles, as they remain in the atmosphere for about one week. Black carbon is a component of aerosol, which is emitted from diesel fueled construction equipment and diesel vehicles that would access the project site. As discussed in Section 3.2 of this report, studies have indicated that black carbon has a high global warming potential; however, the Intergovernmental Panel on Climate Change states that it has a low level of scientific certainty (Intergovernmental Panel on Climate Change 2007a).

Water vapor could be emitted from evaporated water used for landscaping, but this is not a significant impact because water vapor concentrations in the upper atmosphere are primarily due to climate feedbacks rather than emissions from project-related activities. The project would emit nitrogen oxides and volatile organic compounds, which are ozone precursors. Ozone is a greenhouse gas; however, unlike the other greenhouse gases, ozone in the troposphere is relatively short-lived and can be reduced in the troposphere on a daily basis. Stratospheric ozone can be reduced through reactions with other pollutants.

Certain greenhouse gases defined by AB 32 would not be emitted by the project. Perfluorocarbons and sulfur hexafluoride are typically used in industrial applications, none of which would be used by the project. Therefore, it is not anticipated that the project would emit perfluorocarbons or sulfur hexafluoride.

An upstream emission source (also known as life cycle emissions) refers to emissions that were generated during the manufacture of products to be used for construction of the project. Upstream emission sources for the project include but are not limited emissions from the manufacture of cement, emissions from the manufacture of steel, and/or emissions from the transportation of building materials to the seller. The upstream emissions were not estimated because they are not within the control of the project and to do so would be speculative at this time. Additionally, the California Air Pollution Control Officers Association White Paper on CEQA and Climate Change supports this conclusion by stating, "The full life-cycle of GHG [greenhouse gas] emissions from construction activities is not accounted for . . . and the information needed to characterize [life-cycle emissions] would be speculative at the CEQA analysis level" (California Air Pollution Control Officers Association 2008). Additionally, the Office of Planning and Research removed mention of life cycle costs from Appendix F of the CEQA Guidelines in 2009 (OPR 2009). Therefore, pursuant to CEQA Guidelines Sections 15144 and 15145, upstream /life cycle emissions are speculative and no further discussion is necessary.

Construction Emissions

The project would emit greenhouse gases from upstream emission sources and direct sources (combustion of fuels from worker vehicles and construction equipment). For assumptions used in estimating these emissions, please refer to Section 4.2 of this report. Greenhouse gas emissions from project construction equipment and worker vehicles in each phase and year are shown in Table 20.

Table 20: Construction Greenhouse Gas Emissions

Year	Emissions (MTCO2e)					
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Total
2014	1,173					1,173
2015	1,169					1,169
2016	343					343
2017	154	937				1,091
2018		746	1,961			2,707
2019		744	1,281			2,025
2020		299	1,284	1,060		2,643
2021			1,277	960		2,237
2022			1,198	951	917	3,066
2023			131	361	476	968
2024					480	480
2025					478	478

Table 20 (cont.): Construction Greenhouse Gas Emissions

Year	Emissions (MTCO2e)					
	Phase 1	Phase 2	Phase 3	Phase 4	Phase 5	Total
2026					344	344
2027					2	2
Total	**2,839**	**2,726**	**7,132**	**3,332**	**2,697**	**18,726**
Averaged over 30 years						**624.2**

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents.
Source of year by year emissions: CalEEMod unmitigated output and summary prepared by Michael Brandman Associates (Appendix A)

The project may also generate construction waste, which in turn, could emit greenhouse gases. These emissions are not estimated because it is unknown how much construction waste the project would generate. The California Green Building Standards require that the project divert at least 50 percent of construction waste.

Operational Emissions

Operational or long-term emissions occur over the life of the project. The operational emissions for the project at an assumed operational horizon year of 2030 are shown in Table 21. For the assumptions and descriptions of the emission sources, please refer to Section 4.3. As shown in the table, the emissions are over the SCAQMD's Tier 3 significance threshold of 3,000 $MTCO_2e$ per year for a mixed land use development.

Table 21: Project Operational Greenhouse Gases at Horizon Year 2030

Source	Unmitigated Emissions (MTCO2e/year)
Area	1,002
Energy	5,729
Mobile	18,374
Waste	802
Water	1,260
Construction (30-year annual average)	624
Total	**27,779**
Significance Threshold	**3,000**
Significant Impact?	**Yes**

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents.
Source of construction emissions: Table 20, averaged over 30 years.
Source of operational emissions: CalEEMod project operational output (Refer to Section 4.3 for assumptions)

Because the Tier 3 threshold is exceeded, further analysis is performed using the Tier 4 2035 Target of 6.6 $MTCO_2e$/SP/year for a general/specific plan. Service population is taken to be the sum of residents (from CalEEMod land use default values) and an estimate of the school workers (teachers and staff) in the project area. This analysis uses the 2030 horizon year, providing a more conservative estimate of GHG emissions compared to year 2035, as vehicle emissions are projected to be reduced with newer technologies. These results are presented in Table 22. As seen in the table, the impacts are less than significant based on this criterion.

Table 22: Project Operational Greenhouse Gases at Horizon Year 2030

Land Use	Service Population
Elementary School	50
High School	125
Residential - PA 2, 4, 5, and 6	1,831
Residential - PA 1, 3, 7, and 8	3,195
Total SP	5,201
Total Annual Emissions ($MTCO_2e$/year)	**27,779**
Total Annual Emissions per SP ($MTCO_2e$/SP/year)	**5.3**
Significance Plan Threshold ($MTCO_2e$/SP/year)	**6.6**
Significant Impact?	**No**

Notes:
$MTCO_2e$ = metric tons of carbon dioxide equivalents.
Source of emissions: Table 21.
Source of population: CalEEMod project operational output (Refer to Section 4.3 for assumptions)

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant.

Greenhouse Gas Reduction Plans

Impact AIR-7	**The project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases.**

Impact Analysis

This impact assesses whether the project would conflict with a variety of plans, policies, or regulations, as discussed below.

The Ontario Plan

The Ontario Plan was adopted in 2010, and contains policies and goals related to air quality (see Section 3.4, Regulatory Environment). The following consists of an analysis of project consistency with the applicable greenhouse gas policies in The Ontario Plan. A number of mitigation measures have been included in the EIR for TOP, to reduce Citywide GHG emissions. A number of these mitigation measures are City-sponsored policies, which would not be applicable to the proposed future residential development on the site. Future residential developments within the project would comply with the City-sponsored policies, plans, and measures when such policies, plans and measures are adopted at the time of site development. Consistency of the proposed project with TOP would in turn, mean consistency with these mitigation measures.

ER4-1: *Land Use*. We reduce GHG and other local pollutant emissions through compact, mixed use, and transit-oriented development and development that improves the regional jobs-housing balance.

Project consistency: The project proposes mixed residential, recreational, and educational uses. See Mitigation Measure MM AQ-4

ER4-3: *Greenhouse Gases (GHG) Emissions Reductions.* We will reduce GHG emissions in accordance with regional, state and federal regulations.

Project consistency: The project would comply with regulations related to reducing GHG emissions (see Section 3.4 -Regulatory Environment). See Mitigation Measure MM AQ-4.

ER4-5: *Transportation.* We promote mass transit and non-motorized mobility options (e.g. walking, biking) to reduce air pollutant emissions.

Project consistency: The project promotes non-motorized mobility options by providing a mixed use development with residential, recreational, and educational land uses. See Mitigation Measure MM AQ-5.

ER4-8: *Tree Planting.* We protect healthy trees within the City and plant new trees to increase carbon sequestration and help the regional/local air quality.

Project consistency: The project proposes a 130.5 acre park, as well as smaller pocket parks within the residential planning areas. See Mitigation Measure MM AQ-6.

Southern California Association of Governments, Regional Transportation Plan, Sustainable Communities Strategy 2012- 2035

The Sustainable Communities Strategy (SCS) within the Regional Transportation Plan demonstrates the region's ability to attain and exceed the greenhouse gas emission reduction targets set by the CARB. The SCS outlines the plan for integrating the transportation network and related strategies with an overall land use pattern that responds to projected growth, housing needs, changing demographics, and transportation demands. The regional vision of the SCS maximizes current voluntary local efforts that support the goals of SB 375, as evidenced by several Compass Blueprint Demonstration Projects and various county transportation improvements. The SCS focuses the majority of new housing and job growth in high-quality transit areas and other opportunity areas in existing main streets, downtowns, and commercial corridors, resulting in an improved jobs-housing balance and more opportunity for transit-oriented development. This overall land use development pattern supports and complements the proposed transportation network that emphasizes system preservation, active transportation, and transportation demand management measures.

The RTP/SCS exceeds its greenhouse gas emission-reduction targets set by CARB by achieving a 9 percent reduction by 2020 and 16 percent reduction by 2035 compared to the 2005 level on a per capita basis.

Strategies in the RTP that include the Local Jurisdiction as a responsible party, that could be applicable to the project, and that pertain to air quality or greenhouse gases are shown in Table 23. Many of the strategies are similar to the project's existing design features.

Table 23: Select Regional Transportation Plan Strategies

Strategy	Responsible Party
Encourage the use of range-limited battery electric and other alternative fueled vehicles through policies and programs, such as, but not limited to, neighborhood oriented development, complete streets, and Electric (and other alternative fuel) Vehicle Supply Equipment in public parking lots.	Local Jurisdictions, COGs, SCAG, CTCs
Support projects, programs, and policies that support active and healthy community environments that encourage safe walking, bicycling, and physical activity by children, including, but not limited to development of complete streets, school siting policies, joint use agreements, and bicycle and pedestrian safety education.	Local Jurisdictions, SCAG
Engage in a strategic planning process to determine the critical components and implementation steps for identifying and addressing open space resources, including increasing and preserving park space, specifically in park-poor communities.	Local Jurisdictions, SCAG
Develop first-mile/last-mile strategies on a local level to provide an incentive for making trips by transit, bicycling, walking, or neighborhood electric vehicle or other zero emission vehicle options.	CTCs, Local Jurisdictions

Table 23 (cont.): Select Regional Transportation Plan Strategies

Strategy	Responsible Party
Encourage transit fare discounts and local vendor product and service discounts for residents and employees of transit oriented development / high quality transit areas or for a jurisdiction's local residents in general who have fare media	Local Jurisdictions
Encourage the implementation of a Complete Streets policy that meets the needs of all users of the streets, roads and highways - including bicyclists, children, persons with disabilities, motorists, neighborhood electric vehicle (NEVs) users, movers of commercial goods, pedestrians, users of public transportation and seniors - for safe and convenient travel in a manner that is suitable to the suburban and urban contexts within the region.	Local Jurisdictions, COGs, SCAG, CTCs
Support work-based programs that encourage emission reduction strategies and incentivize active transportation commuting or ride-share modes.	SCAG, Local Jurisdictions
Develop infrastructure plans and educational programs to promote active transportation options and other alternative fueled vehicles, such as neighborhood electric vehicles, and consider collaboration with local public health departments, walking/biking coalitions, and/or Safe Routes to School initiatives, which may already have components of such educational programs in place.	Local Jurisdictions
Encourage the development of telecommuting programs by employers through review and revision of policies that may discourage alternative work options.	Local Jurisdictions, CTCs
Emphasize active transportation and alternative fueled vehicle projects as part of complying with the Complete Streets Act (AB 1358).	State, SCAG, Local Jurisdictions
Notes: SCAG = Southern California Association of Governments CTCs = county transportation commissions COGs = subregional councils of governments Source: Southern California Association of Governments 2012.	

Scoping Plan Reduction Measures

The California State Legislature adopted AB 32 in 2006. AB 32 focuses on reducing greenhouse gases (carbon dioxide, methane, nitrous oxide, hydrofluorocarbons, perfluorocarbons, and sulfur hexafluoride) to 1990 levels by the year 2020. Pursuant to the requirements in AB 32, the CARB adopted the Climate Change Scoping Plan (Scoping Plan) in 2008, which outlines actions recommended to obtain that goal. As noted in Section 3.4 -Regulatory Environment, the Scoping Plan was re-approved in 2011 with revisions to estimated greenhouse gas reductions.

The Scoping Plan contains a variety of strategies to reduce the State's emissions. As shown in Table 24, the strategies are not applicable to the project. Therefore, the project does not conflict with the Scoping Plan.

Table 24: Inapplicable Scoping Plan Reduction Measures

Scoping Plan Reduction Measure	Reason Why Not Applicable
1. California Cap-and-Trade Program Linked to Western Climate Initiative. Implement a broad-based California Cap-and-Trade program to provide a firm limit on emissions. Link the California cap-and-trade program with other Western Climate Initiative Partner programs to create a regional market system to achieve greater environmental and economic benefits for California. Ensure California's program meets all applicable AB 32 requirements for market-based mechanisms.	When this cap-and-trade system begins, products or services (such as electricity) would be covered and the cost of the cap-and-trade system would be transferred to the consumers.
2. California Light-Duty Vehicle Greenhouse Gas Standards. Implement adopted standards and planned second phase of the program. Align zero-emission vehicle, alternative and renewable fuel and vehicle technology programs with long-term climate change goals.	This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.
3. Energy Efficiency. Maximize energy efficiency building and appliance standards; pursue additional efficiency including new technologies, policy, and implementation mechanisms. Pursue comparable investment in energy efficiency from all retail providers of electricity in California.	This is a measure for the state to increase its energy efficiency standards. However, the project would increase its energy efficiency through existing regulation.
4. Renewable Portfolio Standard. Achieve 33 percent renewable energy mix statewide. Renewable energy sources include (but are not limited to) wind, solar, geothermal, small hydroelectric, biomass, anaerobic digestion, and landfill gas.	This is a measure applicable to the utility provider for the project.
5. Low Carbon Fuel Standard. Develop and adopt the Low Carbon Fuel Standard.	This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standard would be applicable to the fuel used by vehicles that would access the project site.
6. Regional Transportation-Related Greenhouse Gas Targets. Develop regional greenhouse gas emissions reduction targets for passenger vehicles. This measure refers to SB 375.	The project is not related to developing greenhouse gas emission reduction targets. For a discussion of the Regional Transportation Plan and the Sustainable Communities Strategy, refer to the discussion above.
7. Vehicle Efficiency Measures. Implement light-duty vehicle efficiency measures.	When this measure is initiated, the standards would be applicable to the light-duty vehicles that would access the project site.

Table 24 (cont.): Inapplicable Scoping Plan Reduction Measures

Scoping Plan Reduction Measure	Reason Why Not Applicable
8. Goods Movement. Implement adopted regulations for the use of shore power for ships at berth. Improve efficiency in goods movement activities.	The project does not propose any changes to maritime, rail, or intermodal facilities or forms of transportation.
9. Million Solar Roofs Program. Install 3,000 MW of solar-electric capacity under California's existing solar programs.	This measure is to increase solar throughout California, which is being done by various electricity providers and existing solar programs.
10. Medium/Heavy-Duty Vehicles. Adopt medium and heavy-duty vehicle efficiency measures.	This is a statewide measure that cannot be implemented by a project applicant or lead agency. When this measure is initiated, the standards would be applicable to the vehicles that access the project site.
11. Industrial Emissions. Require assessment of large industrial sources to determine whether individual sources within a facility can cost-effectively reduce greenhouse gas emissions and provide other pollution reduction co-benefits. Reduce greenhouse gas emissions from fugitive emissions from oil and gas extraction and gas transmission. Adopt and implement regulations to control fugitive methane emissions and reduce flaring at refineries.	This measure would apply to the direct greenhouse gas emissions at major industrial facilities, including power plants, refineries, cement plants, and other related sources. In addition, the majority of emissions from the project are indirect, and not direct, since the majority of the emissions are from trucks and motor vehicles.
12. High Speed Rail. Support implementation of a high-speed rail system.	This is a statewide measure that cannot be implemented by a project applicant or lead agency.
13. Green Building Strategy. Expand the use of green building practices to reduce the carbon footprint of California's new and existing inventory of buildings.	The state is to increase the use of green building practices. The project would implement some green building strategies through existing regulation.
14. High Global Warming Potential Gases. Adopt measures to reduce high global warming potential gases.	When this measure is initiated, it would be applicable to the high global warming potential gases that would be used by the project (such as in air conditioning).
15. Recycling and Waste. Reduce methane emissions at landfills. Increase waste diversion, composting, and commercial recycling. Move toward zero-waste.	The project would not contain a landfill. The State is to help increase waste diversion.
16. Sustainable Forests. Preserve forest sequestration and encourage the use of forest biomass for sustainable energy generation.	No forested lands exist onsite.
17. Water. Continue efficiency programs and use cleaner energy sources to move and treat water.	This is a measure for state and local agencies.
18. Agriculture. In the near-term, encourage investment in manure digesters and at the five-year Scoping Plan update determine if the program should be made mandatory by 2020.	No grazing, feedlot, or other agricultural activities that generate manure occur onsite or are proposed to be implemented by the project.

Table 24 (cont.): Inapplicable Scoping Plan Reduction Measures

Scoping Plan Reduction Measure	Reason Why Not Applicable
Source of CARB Scoping Plan Reduction Measure: California Air Resources Board 2008. Source of Project Consistency or Applicability: Michael Brandman Associates.	

Level of Significance Before Mitigation

Less than significant.

Mitigation Measures

No mitigation measures are required.

Level of Significance After Mitigation

Less than significant.

SECTION 6: REFERENCES

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Appendix A: CalEEMod Output and Regional Emissions Spreadsheets

Grand Park Specific Plan - Phase 1 (PA 7 and 8)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Condo/Townhouse	587	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Approximate Phasing from the City of Ontario

Construction Phase - Projected phasing schedule

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	1.11	7.17	6.77	0.01	0.90	0.38	1.28	0.19	0.38	0.57	0.00	1,170.95	1,170.95	0.09	0.00	1,172.87
2015	0.93	5.18	6.62	0.01	0.72	0.30	1.02	0.01	0.29	0.30	0.00	1,167.46	1,167.46	0.08	0.00	1,169.07
2016	2.57	1.52	1.78	0.00	0.17	0.10	0.27	0.00	0.10	0.10	0.00	305.91	305.91	0.02	0.00	306.39
Total	**4.61**	**13.87**	**15.17**	**0.02**	**1.79**	**0.78**	**2.57**	**0.20**	**0.77**	**0.97**	**0.00**	**2,644.32**	**2,644.32**	**0.19**	**0.00**	**2,648.33**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2014	0.87	4.66	7.03	0.01	0.69	0.33	1.02	0.09	0.32	0.41	0.00	1,170.95	1,170.95	0.09	0.00	1,172.87
2015	0.83	4.05	6.88	0.01	0.72	0.30	1.01	0.01	0.29	0.30	0.00	1,167.46	1,167.46	0.08	0.00	1,169.07
2016	2.52	1.12	1.82	0.00	0.17	0.09	0.26	0.00	0.09	0.09	0.00	305.91	305.91	0.02	0.00	306.39
Total	**4.22**	**9.83**	**15.73**	**0.02**	**1.58**	**0.72**	**2.29**	**0.10**	**0.70**	**0.80**	**0.00**	**2,644.32**	**2,644.32**	**0.19**	**0.00**	**2,648.33**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.04	0.33	0.21	0.00		0.02	0.02		0.02	0.02	0.00	34.06	34.06	0.00	0.00	34.13
Total	**0.04**	**0.33**	**0.21**	**0.00**	**0.00**	**0.02**	**0.02**	**0.00**	**0.02**	**0.02**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.13**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	1.70	1.70	0.00	0.00	1.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.68	0.00	0.00	0.68
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.38**	**2.38**	**0.00**	**0.00**	**2.38**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.17	0.20	0.00		0.01	0.01		0.01	0.01	0.00	34.06	34.06	0.00	0.00	34.13
Total	**0.03**	**0.17**	**0.20**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.13**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.01	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	1.70	1.70	0.00	0.00	1.70
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.68	0.68	0.00	0.00	0.68
Total	**0.00**	**0.01**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**2.38**	**2.38**	**0.00**	**0.00**	**2.38**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.18	0.00	0.18	0.10	0.00	0.10	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.75	0.43	0.00		0.04	0.04		0.04	0.04	0.00	72.53	72.53	0.01	0.00	72.69
Total	**0.09**	**0.75**	**0.43**	**0.00**	**0.18**	**0.04**	**0.22**	**0.10**	**0.04**	**0.14**	**0.00**	**72.53**	**72.53**	**0.01**	**0.00**	**72.69**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.62	1.62	0.00	0.00	1.62
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.62**	**1.62**	**0.00**	**0.00**	**1.62**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.08	0.00	0.08	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.06	0.38	0.40	0.00		0.03	0.03		0.03	0.03	0.00	72.53	72.53	0.01	0.00	72.69
Total	**0.06**	**0.38**	**0.40**	**0.00**	**0.08**	**0.03**	**0.11**	**0.04**	**0.03**	**0.07**	**0.00**	**72.53**	**72.53**	**0.01**	**0.00**	**72.69**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.62	1.62	0.00	0.00	1.62
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.62**	**1.62**	**0.00**	**0.00**	**1.62**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.20	0.00	0.20	0.08	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.25	2.04	1.14	0.00		0.09	0.09		0.09	0.09	0.00	221.54	221.54	0.02	0.00	221.97
Total	**0.25**	**2.04**	**1.14**	**0.00**	**0.20**	**0.09**	**0.29**	**0.08**	**0.09**	**0.17**	**0.00**	**221.54**	**221.54**	**0.02**	**0.00**	**221.97**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.05	4.05	0.00	0.00	4.06
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.05**	**4.05**	**0.00**	**0.00**	**4.06**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.09	0.00	0.09	0.04	0.00	0.04	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.18	1.13	1.27	0.00		0.08	0.08		0.08	0.08	0.00	221.54	221.54	0.02	0.00	221.97
Total	**0.18**	**1.13**	**1.27**	**0.00**	**0.09**	**0.08**	**0.17**	**0.04**	**0.08**	**0.12**	**0.00**	**221.54**	**221.54**	**0.02**	**0.00**	**221.97**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.05	4.05	0.00	0.00	4.06
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.05**	**4.05**	**0.00**	**0.00**	**4.06**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.44	2.97	2.15	0.00		0.19	0.19		0.19	0.19	0.00	338.97	338.97	0.04	0.00	339.72
Total	**0.44**	**2.97**	**2.15**	**0.00**		**0.19**	**0.19**		**0.19**	**0.19**	**0.00**	**338.97**	**338.97**	**0.04**	**0.00**	**339.72**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.08	0.86	0.57	0.00	0.05	0.03	0.08	0.00	0.03	0.03	0.00	143.52	143.52	0.00	0.00	143.60
Worker	0.20	0.21	2.23	0.00	0.46	0.02	0.48	0.01	0.02	0.02	0.00	352.28	352.28	0.02	0.00	352.70
Total	**0.28**	**1.07**	**2.80**	**0.00**	**0.51**	**0.05**	**0.56**	**0.01**	**0.05**	**0.05**	**0.00**	**495.80**	**495.80**	**0.02**	**0.00**	**496.30**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.33	1.90	2.31	0.00		0.17	0.17		0.17	0.17	0.00	338.97	338.97	0.04	0.00	339.72
Total	**0.33**	**1.90**	**2.31**	**0.00**		**0.17**	**0.17**		**0.17**	**0.17**	**0.00**	**338.97**	**338.97**	**0.04**	**0.00**	**339.72**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.08	0.86	0.57	0.00	0.05	0.03	0.08	0.00	0.03	0.03	0.00	143.52	143.52	0.00	0.00	143.60
Worker	0.20	0.21	2.23	0.00	0.46	0.02	0.48	0.01	0.02	0.02	0.00	352.28	352.28	0.02	0.00	352.70
Total	**0.28**	**1.07**	**2.80**	**0.00**	**0.51**	**0.05**	**0.56**	**0.01**	**0.05**	**0.05**	**0.00**	**495.80**	**495.80**	**0.02**	**0.00**	**496.30**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.57	3.80	3.00	0.01		0.23	0.23		0.23	0.23	0.00	478.23	478.23	0.05	0.00	479.20
Total	**0.57**	**3.80**	**3.00**	**0.01**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**478.23**	**478.23**	**0.05**	**0.00**	**479.20**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.10	1.11	0.74	0.00	0.07	0.04	0.11	0.00	0.03	0.04	0.00	202.91	202.91	0.00	0.00	203.00
Worker	0.26	0.27	2.88	0.01	0.65	0.02	0.67	0.01	0.02	0.03	0.00	486.32	486.32	0.03	0.00	486.87
Total	**0.36**	**1.38**	**3.62**	**0.01**	**0.72**	**0.06**	**0.78**	**0.01**	**0.05**	**0.07**	**0.00**	**689.23**	**689.23**	**0.03**	**0.00**	**689.87**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.46	2.68	3.25	0.01		0.23	0.23		0.23	0.23	0.00	478.23	478.23	0.05	0.00	479.20
Total	**0.46**	**2.68**	**3.25**	**0.01**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**478.23**	**478.23**	**0.05**	**0.00**	**479.20**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.10	1.11	0.74	0.00	0.07	0.04	0.11	0.00	0.03	0.04	0.00	202.91	202.91	0.00	0.00	203.00

Worker	0.26	0.27	2.88	0.01	0.65	0.02	0.67	0.01	0.02	0.03	0.00	486.32	486.32	0.03	0.00	486.87
Total	**0.36**	**1.38**	**3.62**	**0.01**	**0.72**	**0.06**	**0.78**	**0.01**	**0.05**	**0.07**	**0.00**	**689.23**	**689.23**	**0.03**	**0.00**	**689.87**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.11	0.72	0.62	0.00		0.04	0.04		0.04	0.04	0.00	98.94	98.94	0.01	0.00	99.13
Total	**0.11**	**0.72**	**0.62**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**98.94**	**98.94**	**0.01**	**0.00**	**99.13**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.02	0.21	0.14	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	42.10	42.10	0.00	0.00	42.12
Worker	0.05	0.05	0.55	0.00	0.13	0.01	0.14	0.00	0.00	0.01	0.00	98.94	98.94	0.01	0.00	99.05
Total	**0.07**	**0.26**	**0.69**	**0.00**	**0.14**	**0.02**	**0.16**	**0.00**	**0.01**	**0.02**	**0.00**	**141.04**	**141.04**	**0.01**	**0.00**	**141.17**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.10	0.55	0.67	0.00		0.05	0.05		0.05	0.05	0.00	98.94	98.94	0.01	0.00	99.13
Total	**0.10**	**0.55**	**0.67**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**98.94**	**98.94**	**0.01**	**0.00**	**99.13**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.02	0.21	0.14	0.00	0.01	0.01	0.02	0.00	0.01	0.01	0.00	42.10	42.10	0.00	0.00	42.12
Worker	0.05	0.05	0.55	0.00	0.13	0.01	0.14	0.00	0.00	0.01	0.00	98.94	98.94	0.01	0.00	99.05
Total	**0.07**	**0.26**	**0.69**	**0.00**	**0.14**	**0.02**	**0.16**	**0.00**	**0.01**	**0.02**	**0.00**	**141.04**	**141.04**	**0.01**	**0.00**	**141.17**

3.6 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.08	0.49	0.36	0.00		0.04	0.04		0.04	0.04	0.00	46.31	46.31	0.01	0.00	46.44
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.08**	**0.49**	**0.36**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**46.31**	**46.31**	**0.01**	**0.00**	**46.44**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.27	2.27	0.00	0.00	2.28
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.27**	**2.27**	**0.00**	**0.00**	**2.28**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.04	0.27	0.33	0.00		0.03	0.03		0.03	0.03	0.00	46.31	46.31	0.01	0.00	46.44
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.04**	**0.27**	**0.33**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**46.31**	**46.31**	**0.01**	**0.00**	**46.44**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.27	2.27	0.00	0.00	2.28
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.27**	**2.27**	**0.00**	**0.00**	**2.28**

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.29					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.04	0.03	0.00		0.00	0.00		0.00	0.00	0.00	4.46	4.46	0.00	0.00	4.47
Total	**2.30**	**0.04**	**0.03**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.46**	**4.46**	**0.00**	**0.00**	**4.47**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.07	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	12.89	12.89	0.00	0.00	12.90
Total	**0.01**	**0.01**	**0.07**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**12.89**	**12.89**	**0.00**	**0.00**	**12.90**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.29					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.03	0.03	0.00		0.00	0.00		0.00	0.00	0.00	4.46	4.46	0.00	0.00	4.47
Total	**2.29**	**0.03**	**0.03**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**4.46**	**4.46**	**0.00**	**0.00**	**4.47**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.01	0.07	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	12.89	12.89	0.00	0.00	12.90
Total	**0.01**	**0.01**	**0.07**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**12.89**	**12.89**	**0.00**	**0.00**	**12.90**

Grand Park Specific Plan - Phase 1 (PA 7 and 8)

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Condo/Townhouse	587	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Approximate Phasing from the City of Ontario

Construction Phase - Projected phasing schedule

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	11.32	90.75	54.03	0.11	18.30	4.19	21.92	9.93	4.19	13.55	0.00	11,067.45	0.00	1.02	0.00	11,088.77
2015	7.15	39.62	51.27	0.11	6.10	2.27	8.37	0.09	2.23	2.32	0.00	10,123.49	0.00	0.66	0.00	10,137.31
2016	131.82	36.18	49.05	0.11	6.10	2.36	8.14	0.09	2.36	2.36	0.00	10,056.05	0.00	0.61	0.00	10,068.84
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	7.89	50.35	57.84	0.11	8.36	3.44	10.92	4.47	3.43	7.03	0.00	11,067.45	0.00	1.02	0.00	11,088.77
2015	6.36	30.99	53.22	0.11	6.10	2.27	8.37	0.09	2.23	2.32	0.00	10,123.49	0.00	0.66	0.00	10,137.31
2016	131.70	30.19	51.18	0.11	6.10	2.25	8.35	0.09	2.21	2.30	0.00	10,056.05	0.00	0.61	0.00	10,068.84
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.98	0.00	0.98	0.00	0.00	0.00						0.00
Off-Road	8.39	66.18	41.03	0.07		3.21	3.21		3.21	3.21		7,510.81		0.75		7,526.57
Total	**8.39**	**66.18**	**41.03**	**0.07**	**0.98**	**3.21**	**4.19**	**0.00**	**3.21**	**3.21**		**7,510.81**		**0.75**		**7,526.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.21	2.14	1.17	0.00	1.06	0.09	1.15	0.00	0.08	0.09		375.46		0.01		375.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.08	0.89	0.00	0.20	0.01	0.20	0.00	0.01	0.01		158.10		0.01		158.29
Total	**0.29**	**2.22**	**2.06**	**0.00**	**1.26**	**0.10**	**1.35**	**0.00**	**0.09**	**0.10**		**533.56**		**0.02**		**533.97**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.44	0.00	0.44	0.00	0.00	0.00						0.00

Off-Road	5.39	34.78	40.71	0.07		2.47	2.47		2.47	2.47	0.00	7,510.81		0.75		7,526.57
Total	**5.39**	**34.78**	**40.71**	**0.07**	**0.44**	**2.47**	**2.91**	**0.00**	**2.47**	**2.47**	**0.00**	**7,510.81**		**0.75**		**7,526.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.21	2.14	1.17	0.00	1.06	0.09	1.15	0.00	0.08	0.09		375.46		0.01		375.68
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.08	0.89	0.00	0.20	0.01	0.20	0.00	0.01	0.01		158.10		0.01		158.29
Total	**0.29**	**2.22**	**2.06**	**0.00**	**1.26**	**0.10**	**1.35**	**0.00**	**0.09**	**0.10**		**533.56**		**0.02**		**533.97**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.37	74.88	43.05	0.07		3.61	3.61		3.61	3.61		7,997.69		0.84		8,015.31
Total	**9.37**	**74.88**	**43.05**	**0.07**	**18.07**	**3.61**	**21.68**	**9.93**	**3.61**	**13.54**		**7,997.69**		**0.84**		**8,015.31**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.09	1.07	0.00	0.23	0.01	0.24	0.00	0.01	0.01		189.72		0.01		189.94
Total	**0.09**	**0.09**	**1.07**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**189.72**		**0.01**		**189.94**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	5.92	37.75	39.79	0.07		2.55	2.55		2.55	2.55	0.00	7,997.69		0.84		8,015.31
Total	**5.92**	**37.75**	**39.79**	**0.07**	**8.13**	**2.55**	**10.68**	**4.47**	**2.55**	**7.02**	**0.00**	**7,997.69**		**0.84**		**8,015.31**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.09	1.07	0.00	0.23	0.01	0.24	0.00	0.01	0.01		189.72		0.01		189.94
Total	**0.09**	**0.09**	**1.07**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**189.72**		**0.01**		**189.94**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	11.22	90.65	50.83	0.10		4.18	4.18		4.18	4.18		10,856.65		1.00		10,877.72
Total	**11.22**	**90.65**	**50.83**	**0.10**	**8.67**	**4.18**	**12.85**	**3.31**	**4.18**	**7.49**		**10,856.65**		**1.00**		**10,877.72**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.10	1.19	0.00	0.26	0.01	0.27	0.00	0.01	0.01		210.80		0.01		211.05
Total	**0.10**	**0.10**	**1.19**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**210.80**		**0.01**		**211.05**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	7.79	50.25	56.65	0.10		3.43	3.43		3.43	3.43	0.00	10,856.65		1.00		10,877.72
Total	**7.79**	**50.25**	**56.65**	**0.10**	**3.90**	**3.43**	**7.33**	**1.49**	**3.43**	**4.92**	**0.00**	**10,856.65**		**1.00**		**10,877.72**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.10	1.19	0.00	0.26	0.01	0.27	0.00	0.01	0.01		210.80		0.01		211.05
Total	**0.10**	**0.10**	**1.19**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**210.80**		**0.01**		**211.05**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.85	9.37	5.70	0.02	0.58	0.32	0.90	0.01	0.30	0.31		1,715.75		0.04		1,716.64
Worker	2.19	2.13	25.13	0.05	5.52	0.19	5.71	0.07	0.17	0.25		4,458.46		0.25		4,463.65
Total	**3.04**	**11.50**	**30.83**	**0.07**	**6.10**	**0.51**	**6.61**	**0.08**	**0.47**	**0.56**		**6,174.21**		**0.29**		**6,180.29**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.61		0.42		4,049.51
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.85	9.37	5.70	0.02	0.58	0.32	0.90	0.01	0.30	0.31		1,715.75		0.04		1,716.64
Worker	2.19	2.13	25.13	0.05	5.52	0.19	5.71	0.07	0.17	0.25		4,458.46		0.25		4,463.65
Total	**3.04**	**11.50**	**30.83**	**0.07**	**6.10**	**0.51**	**6.61**	**0.08**	**0.47**	**0.56**		**6,174.21**		**0.29**		**6,180.29**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.34	29.16	22.98	0.04		1.80	1.80		1.80	1.80		4,040.61		0.39		4,048.81
Total	**4.34**	**29.16**	**22.98**	**0.04**		**1.80**	**1.80**		**1.80**	**1.80**		**4,040.61**		**0.39**		**4,048.81**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.77	8.53	5.18	0.02	0.58	0.29	0.87	0.01	0.26	0.28		1,719.50		0.04		1,720.30
Worker	2.04	1.94	23.11	0.05	5.52	0.19	5.71	0.07	0.18	0.25		4,363.37		0.23		4,368.20
Total	**2.81**	**10.47**	**28.29**	**0.07**	**6.10**	**0.48**	**6.58**	**0.08**	**0.44**	**0.53**		**6,082.87**		**0.27**		**6,088.50**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.61		0.39		4,048.81
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.61**		**0.39**		**4,048.81**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.77	8.53	5.18	0.02	0.58	0.29	0.87	0.01	0.26	0.28		1,719.50		0.04		1,720.30

Worker	2.04	1.94	23.11	0.05	5.52	0.19	5.71	0.07	0.18	0.25		4,363.37		0.23		4,368.20
Total	**2.81**	**10.47**	**28.29**	**0.07**	**6.10**	**0.48**	**6.58**	**0.08**	**0.44**	**0.53**		**6,082.87**		**0.27**		**6,088.50**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.99	26.52	22.80	0.04		1.58	1.58		1.58	1.58		4,040.61		0.36		4,048.10
Total	**3.99**	**26.52**	**22.80**	**0.04**		**1.58**	**1.58**		**1.58**	**1.58**		**4,040.61**		**0.36**		**4,048.10**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.71	7.88	4.78	0.02	0.58	0.26	0.84	0.01	0.24	0.25		1,724.55		0.03		1,725.28
Worker	1.92	1.78	21.47	0.05	5.52	0.19	5.72	0.07	0.18	0.25		4,290.89		0.22		4,295.45
Total	**2.63**	**9.66**	**26.25**	**0.07**	**6.10**	**0.45**	**6.56**	**0.08**	**0.42**	**0.50**		**6,015.44**		**0.25**		**6,020.73**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.61		0.36		4,048.10
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.61**		**0.36**		**4,048.10**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.71	7.88	4.78	0.02	0.58	0.26	0.84	0.01	0.24	0.25		1,724.55		0.03		1,725.28
Worker	1.92	1.78	21.47	0.05	5.52	0.19	5.72	0.07	0.18	0.25		4,290.89		0.22		4,295.45
Total	**2.63**	**9.66**	**26.25**	**0.07**	**6.10**	**0.45**	**6.56**	**0.08**	**0.42**	**0.50**		**6,015.44**		**0.25**		**6,020.73**

3.6 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.58	28.21	20.38	0.03		2.35	2.35		2.35	2.35		2,917.64		0.41		2,926.29
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**4.58**	**28.21**	**20.38**	**0.03**		**2.35**	**2.35**		**2.35**	**2.35**		**2,917.64**		**0.41**		**2,926.29**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.76	0.00	0.20	0.01	0.20	0.00	0.01	0.01		152.16		0.01		152.32
Total	**0.07**	**0.06**	**0.76**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**152.16**		**0.01**		**152.32**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.57	15.40	19.00	0.03		1.54	1.54		1.54	1.54	0.00	2,917.64		0.41		2,926.29
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.57**	**15.40**	**19.00**	**0.03**		**1.54**	**1.54**		**1.54**	**1.54**	**0.00**	**2,917.64**		**0.41**		**2,926.29**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.76	0.00	0.20	0.01	0.20	0.00	0.01	0.01		152.16		0.01		152.32
Total	**0.07**	**0.06**	**0.76**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**152.16**		**0.01**		**152.32**

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	131.07					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20		281.19		0.03		281.89
Total	**131.44**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**		**281.19**		**0.03**		**281.89**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.39	0.36	4.31	0.01	1.11	0.04	1.15	0.01	0.04	0.05		862.23		0.04		863.15
Total	**0.39**	**0.36**	**4.31**	**0.01**	**1.11**	**0.04**	**1.15**	**0.01**	**0.04**	**0.05**		**862.23**		**0.04**		**863.15**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	131.07					0.00	0.00		0.00	0.00						0.00
Off-Road	0.25	1.48	1.83	0.00		0.15	0.15		0.15	0.15	0.00	281.19		0.03		281.89
Total	**131.32**	**1.48**	**1.83**	**0.00**		**0.15**	**0.15**		**0.15**	**0.15**	**0.00**	**281.19**		**0.03**		**281.89**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.39	0.36	4.31	0.01	1.11	0.04	1.15	0.01	0.04	0.05		862.23		0.04		863.15
Total	**0.39**	**0.36**	**4.31**	**0.01**	**1.11**	**0.04**	**1.15**	**0.01**	**0.04**	**0.05**		**862.23**		**0.04**		**863.15**

Grand Park Specific Plan - Phase 1 (PA 7 and 8)

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Condo/Townhouse	587	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Approximate Phasing from the City of Ontario

Construction Phase - Projected phasing schedule

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	11.33	90.77	53.10	0.10	18.30	4.19	21.92	9.93	4.19	13.55	0.00	11,049.78	0.00	1.01	0.00	11,071.08
2015	7.32	40.24	50.41	0.10	6.10	2.28	8.38	0.09	2.24	2.33	0.00	9,743.38	0.00	0.65	0.00	9,757.01
2016	131.84	36.72	48.24	0.10	6.10	2.36	8.14	0.09	2.36	2.36	0.00	9,681.36	0.00	0.60	0.00	9,693.94
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2014	7.90	50.37	57.76	0.10	8.36	3.44	10.92	4.47	3.43	7.03	0.00	11,049.78	0.00	1.01	0.00	11,071.08
2015	6.52	31.61	52.37	0.10	6.10	2.27	8.37	0.09	2.24	2.33	0.00	9,743.38	0.00	0.65	0.00	9,757.01
2016	131.72	30.72	50.37	0.10	6.10	2.25	8.35	0.09	2.22	2.30	0.00	9,681.36	0.00	0.60	0.00	9,693.94
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.98	0.00	0.98	0.00	0.00	0.00						0.00
Off-Road	8.39	66.18	41.03	0.07		3.21	3.21		3.21	3.21		7,510.81		0.75		7,526.57
Total	**8.39**	**66.18**	**41.03**	**0.07**	**0.98**	**3.21**	**4.19**	**0.00**	**3.21**	**3.21**		**7,510.81**		**0.75**		**7,526.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.22	2.25	1.27	0.00	1.06	0.09	1.15	0.00	0.08	0.09		373.60		0.01		373.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.09	0.83	0.00	0.20	0.01	0.20	0.00	0.01	0.01		144.85		0.01		145.02
Total	**0.30**	**2.34**	**2.10**	**0.00**	**1.26**	**0.10**	**1.35**	**0.00**	**0.09**	**0.10**		**518.45**		**0.02**		**518.84**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					0.44	0.00	0.44	0.00	0.00	0.00						0.00
Off-Road	5.39	34.78	40.71	0.07		2.47	2.47		2.47	2.47	0.00	7,510.81		0.75		7,526.57
Total	**5.39**	**34.78**	**40.71**	**0.07**	**0.44**	**2.47**	**2.91**	**0.00**	**2.47**	**2.47**	**0.00**	**7,510.81**		**0.75**		**7,526.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.22	2.25	1.27	0.00	1.06	0.09	1.15	0.00	0.08	0.09		373.60		0.01		373.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.09	0.83	0.00	0.20	0.01	0.20	0.00	0.01	0.01		144.85		0.01		145.02
Total	**0.30**	**2.34**	**2.10**	**0.00**	**1.26**	**0.10**	**1.35**	**0.00**	**0.09**	**0.10**		**518.45**		**0.02**		**518.84**

3.3 Site Preparation - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	9.37	74.88	43.05	0.07		3.61	3.61		3.61	3.61		7,997.69		0.84		8,015.31
Total	**9.37**	**74.88**	**43.05**	**0.07**	**18.07**	**3.61**	**21.68**	**9.93**	**3.61**	**13.54**		**7,997.69**		**0.84**		**8,015.31**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.10	1.00	0.00	0.23	0.01	0.24	0.00	0.01	0.01		173.82		0.01		174.03
Total	**0.10**	**0.10**	**1.00**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**173.82**		**0.01**		**174.03**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	5.92	37.75	39.79	0.07		2.55	2.55		2.55	2.55	0.00	7,997.69		0.84		8,015.31
Total	**5.92**	**37.75**	**39.79**	**0.07**	**8.13**	**2.55**	**10.68**	**4.47**	**2.55**	**7.02**	**0.00**	**7,997.69**		**0.84**		**8,015.31**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.10	1.00	0.00	0.23	0.01	0.24	0.00	0.01	0.01		173.82		0.01		174.03
Total	**0.10**	**0.10**	**1.00**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**173.82**		**0.01**		**174.03**

3.4 Grading - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	11.22	90.65	50.83	0.10		4.18	4.18		4.18	4.18		10,856.65		1.00		10,877.72
Total	**11.22**	**90.65**	**50.83**	**0.10**	**8.67**	**4.18**	**12.85**	**3.31**	**4.18**	**7.49**		**10,856.65**		**1.00**		**10,877.72**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.12	1.11	0.00	0.26	0.01	0.27	0.00	0.01	0.01		193.13		0.01		193.36
Total	**0.11**	**0.12**	**1.11**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**193.13**		**0.01**		**193.36**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	7.79	50.25	56.65	0.10		3.43	3.43		3.43	3.43	0.00	10,856.65		1.00		10,877.72
Total	**7.79**	**50.25**	**56.65**	**0.10**	**3.90**	**3.43**	**7.33**	**1.49**	**3.43**	**4.92**	**0.00**	**10,856.65**		**1.00**		**10,877.72**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.11	0.12	1.11	0.00	0.26	0.01	0.27	0.00	0.01	0.01		193.13		0.01		193.36
Total	**0.11**	**0.12**	**1.11**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**193.13**		**0.01**		**193.36**

3.5 Building Construction - 2014

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.74	32.06	23.20	0.04		2.02	2.02		2.02	2.02		4,040.61		0.42		4,049.51
Total	**4.74**	**32.06**	**23.20**	**0.04**		**2.02**	**2.02**		**2.02**	**2.02**		**4,040.61**		**0.42**		**4,049.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.90	9.77	6.47	0.02	0.58	0.33	0.91	0.01	0.30	0.32		1,702.73		0.04		1,703.66
Worker	2.32	2.45	23.44	0.04	5.52	0.19	5.71	0.07	0.17	0.25		4,084.66		0.24		4,089.60
Total	**3.22**	**12.22**	**29.91**	**0.06**	**6.10**	**0.52**	**6.62**	**0.08**	**0.47**	**0.57**		**5,787.39**		**0.28**		**5,793.26**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.61		0.42		4,049.51
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.61**		**0.42**		**4,049.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.90	9.77	6.47	0.02	0.58	0.33	0.91	0.01	0.30	0.32		1,702.73		0.04		1,703.66
Worker	2.32	2.45	23.44	0.04	5.52	0.19	5.71	0.07	0.17	0.25		4,084.66		0.24		4,089.60
Total	**3.22**	**12.22**	**29.91**	**0.06**	**6.10**	**0.52**	**6.62**	**0.08**	**0.47**	**0.57**		**5,787.39**		**0.28**		**5,793.26**

3.5 Building Construction - 2015

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.34	29.16	22.98	0.04		1.80	1.80		1.80	1.80		4,040.61		0.39		4,048.81
Total	**4.34**	**29.16**	**22.98**	**0.04**		**1.80**	**1.80**		**1.80**	**1.80**		**4,040.61**		**0.39**		**4,048.81**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.81	8.85	5.94	0.02	0.58	0.29	0.87	0.01	0.27	0.28		1,706.10		0.04		1,706.94
Worker	2.17	2.23	21.49	0.04	5.52	0.19	5.71	0.07	0.18	0.25		3,996.66		0.22		4,001.25
Total	**2.98**	**11.08**	**27.43**	**0.06**	**6.10**	**0.48**	**6.58**	**0.08**	**0.45**	**0.53**		**5,702.76**		**0.26**		**5,708.19**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.61		0.39		4,048.81
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.61**		**0.39**		**4,048.81**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.81	8.85	5.94	0.02	0.58	0.29	0.87	0.01	0.27	0.28		1,706.10		0.04		1,706.94

Worker	2.17	2.23	21.49	0.04	5.52	0.19	5.71	0.07	0.18	0.25		3,996.66		0.22		4,001.25
Total	**2.98**	**11.08**	**27.43**	**0.06**	**6.10**	**0.48**	**6.58**	**0.08**	**0.45**	**0.53**		**5,702.76**		**0.26**		**5,708.19**

3.5 Building Construction - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.99	26.52	22.80	0.04		1.58	1.58		1.58	1.58		4,040.61		0.36		4,048.10
Total	**3.99**	**26.52**	**22.80**	**0.04**		**1.58**	**1.58**		**1.58**	**1.58**		**4,040.61**		**0.36**		**4,048.10**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.75	8.15	5.53	0.02	0.58	0.26	0.84	0.01	0.24	0.26		1,710.81		0.04		1,711.58
Worker	2.04	2.05	19.91	0.04	5.52	0.19	5.72	0.07	0.18	0.25		3,929.94		0.21		3,934.26
Total	**2.79**	**10.20**	**25.44**	**0.06**	**6.10**	**0.45**	**6.56**	**0.08**	**0.42**	**0.51**		**5,640.75**		**0.25**		**5,645.84**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.61		0.36		4,048.10
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.61**		**0.36**		**4,048.10**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.75	8.15	5.53	0.02	0.58	0.26	0.84	0.01	0.24	0.26		1,710.81		0.04		1,711.58
Worker	2.04	2.05	19.91	0.04	5.52	0.19	5.72	0.07	0.18	0.25		3,929.94		0.21		3,934.26
Total	**2.79**	**10.20**	**25.44**	**0.06**	**6.10**	**0.45**	**6.56**	**0.08**	**0.42**	**0.51**		**5,640.75**		**0.25**		**5,645.84**

3.6 Paving - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	4.58	28.21	20.38	0.03		2.35	2.35		2.35	2.35		2,917.64		0.41		2,926.29
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**4.58**	**28.21**	**20.38**	**0.03**		**2.35**	**2.35**		**2.35**	**2.35**		**2,917.64**		**0.41**		**2,926.29**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.07	0.71	0.00	0.20	0.01	0.20	0.00	0.01	0.01		139.36		0.01		139.51
Total	**0.07**	**0.07**	**0.71**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**139.36**		**0.01**		**139.51**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.57	15.40	19.00	0.03		1.54	1.54		1.54	1.54	0.00	2,917.64		0.41		2,926.29
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.57**	**15.40**	**19.00**	**0.03**		**1.54**	**1.54**		**1.54**	**1.54**	**0.00**	**2,917.64**		**0.41**		**2,926.29**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.07	0.71	0.00	0.20	0.01	0.20	0.00	0.01	0.01		139.36		0.01		139.51
Total	**0.07**	**0.07**	**0.71**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**139.36**		**0.01**		**139.51**

3.7 Architectural Coating - 2016

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	131.07					0.00	0.00		0.00	0.00						0.00
Off-Road	0.37	2.37	1.88	0.00		0.20	0.20		0.20	0.20		281.19		0.03		281.89
Total	**131.44**	**2.37**	**1.88**	**0.00**		**0.20**	**0.20**		**0.20**	**0.20**		**281.19**		**0.03**		**281.89**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.41	0.41	4.00	0.01	1.11	0.04	1.15	0.01	0.04	0.05		789.70		0.04		790.57
Total	**0.41**	**0.41**	**4.00**	**0.01**	**1.11**	**0.04**	**1.15**	**0.01**	**0.04**	**0.05**		**789.70**		**0.04**		**790.57**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	131.07					0.00	0.00		0.00	0.00						0.00
Off-Road	0.25	1.48	1.83	0.00		0.15	0.15		0.15	0.15	0.00	281.19		0.03		281.89
Total	**131.32**	**1.48**	**1.83**	**0.00**		**0.15**	**0.15**		**0.15**	**0.15**	**0.00**	**281.19**		**0.03**		**281.89**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.41	0.41	4.00	0.01	1.11	0.04	1.15	0.01	0.04	0.05		789.70		0.04		790.57
Total	**0.41**	**0.41**	**4.00**	**0.01**	**1.11**	**0.04**	**1.15**	**0.01**	**0.04**	**0.05**		**789.70**		**0.04**		**790.57**

Grand Park Specific Plan Phase 2 (PA 4,5,6)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Single Family Housing	361	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Project Description

Construction Phase - Allowance for Demolition of existing structures

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.84	5.88	4.79	0.01	0.75	0.28	1.03	0.29	0.28	0.57	0.00	935.10	935.10	0.07	0.00	936.53
2018	0.55	3.45	4.00	0.01	0.24	0.18	0.42	0.00	0.18	0.18	0.00	745.53	745.53	0.04	0.00	746.46
2019	0.51	3.14	3.91	0.01	0.24	0.16	0.40	0.00	0.16	0.16	0.00	742.95	742.95	0.04	0.00	743.81
2020	2.78	1.46	1.72	0.00	0.08	0.09	0.17	0.00	0.09	0.09	0.00	298.75	298.75	0.02	0.00	299.16
Total	**4.68**	**13.93**	**14.42**	**0.03**	**1.31**	**0.71**	**2.02**	**0.29**	**0.71**	**1.00**	**0.00**	**2,722.33**	**2,722.33**	**0.17**	**0.00**	**2,725.96**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2017	0.74	4.47	5.41	0.01	0.42	0.32	0.74	0.13	0.32	0.45	0.00	935.10	935.10	0.07	0.00	936.53
2018	0.58	3.28	4.32	0.01	0.24	0.26	0.50	0.00	0.26	0.26	0.00	745.53	745.53	0.04	0.00	746.46
2019	0.57	3.24	4.25	0.01	0.24	0.26	0.50	0.00	0.26	0.26	0.00	742.95	742.95	0.04	0.00	743.81
2020	2.78	1.38	1.80	0.00	0.08	0.12	0.20	0.00	0.12	0.12	0.00	298.75	298.75	0.02	0.00	299.16
Total	**4.67**	**12.37**	**15.78**	**0.03**	**0.98**	**0.96**	**1.94**	**0.13**	**0.96**	**1.09**	**0.00**	**2,722.33**	**2,722.33**	**0.17**	**0.00**	**2,725.96**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.26	0.19	0.00		0.01	0.01		0.01	0.01	0.00	34.06	34.06	0.00	0.00	34.12
Total	**0.03**	**0.26**	**0.19**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.12**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.88	0.00	0.00	0.88
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.64	0.00	0.00	0.64
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.52**	**1.52**	**0.00**	**0.00**	**1.52**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.17	0.20	0.00		0.01	0.01		0.01	0.01	0.00	34.06	34.06	0.00	0.00	34.12
Total	**0.03**	**0.17**	**0.20**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.12**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.88	0.00	0.00	0.88
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.64	0.64	0.00	0.00	0.64
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.52**	**1.52**	**0.00**	**0.00**	**1.52**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.27	0.00	0.27	0.15	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.12	0.90	0.56	0.00		0.04	0.04		0.04	0.04	0.00	108.80	108.80	0.01	0.00	109.00
Total	**0.12**	**0.90**	**0.56**	**0.00**	**0.27**	**0.04**	**0.31**	**0.15**	**0.04**	**0.19**	**0.00**	**108.80**	**108.80**	**0.01**	**0.00**	**109.00**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.29	2.29	0.00	0.00	2.29
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.29**	**2.29**	**0.00**	**0.00**	**2.29**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.12	0.00	0.12	0.07	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.09	0.57	0.60	0.00		0.04	0.04		0.04	0.04	0.00	108.80	108.80	0.01	0.00	109.00
Total	**0.09**	**0.57**	**0.60**	**0.00**	**0.12**	**0.04**	**0.16**	**0.07**	**0.04**	**0.11**	**0.00**	**108.80**	**108.80**	**0.01**	**0.00**	**109.00**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.29	2.29	0.00	0.00	2.29

Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.29**	**2.29**	**0.00**	**0.00**	**2.29**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.33	0.00	0.33	0.13	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.35	2.62	1.73	0.00		0.12	0.12		0.12	0.12	0.00	369.24	369.24	0.03	0.00	369.83
Total	**0.35**	**2.62**	**1.73**	**0.00**	**0.33**	**0.12**	**0.45**	**0.13**	**0.12**	**0.25**	**0.00**	**369.24**	**369.24**	**0.03**	**0.00**	**369.83**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	6.36	6.36	0.00	0.00	6.37
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**6.36**	**6.36**	**0.00**	**0.00**	**6.37**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.15	0.00	0.15	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00

Off-Road	0.29	1.88	2.12	0.00		0.13	0.13		0.13	0.13	0.00	369.24	369.24	0.03	0.00	369.83
Total	**0.29**	**1.88**	**2.12**	**0.00**	**0.15**	**0.13**	**0.28**	**0.06**	**0.13**	**0.19**	**0.00**	**369.24**	**369.24**	**0.03**	**0.00**	**369.83**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	6.36	6.36	0.00	0.00	6.37
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**6.36**	**6.36**	**0.00**	**0.00**	**6.37**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.73	1.63	0.00		0.10	0.10		0.10	0.10	0.00	263.85	263.85	0.02	0.00	264.30
Total	**0.26**	**1.73**	**1.63**	**0.00**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**263.85**	**263.85**	**0.02**	**0.00**	**264.30**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.03	0.32	0.22	0.00	0.02	0.01	0.03	0.00	0.01	0.01	0.00	69.62	69.62	0.00	0.00	69.65
Worker	0.04	0.04	0.42	0.00	0.11	0.00	0.11	0.00	0.00	0.01	0.00	79.37	79.37	0.00	0.00	79.46
Total	**0.07**	**0.36**	**0.64**	**0.00**	**0.13**	**0.01**	**0.14**	**0.00**	**0.01**	**0.02**	**0.00**	**148.99**	**148.99**	**0.00**	**0.00**	**149.11**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.48	1.79	0.00		0.13	0.13		0.13	0.13	0.00	263.85	263.85	0.02	0.00	264.30
Total	**0.26**	**1.48**	**1.79**	**0.00**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**263.85**	**263.85**	**0.02**	**0.00**	**264.30**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.03	0.32	0.22	0.00	0.02	0.01	0.03	0.00	0.01	0.01	0.00	69.62	69.62	0.00	0.00	69.65
Worker	0.04	0.04	0.42	0.00	0.11	0.00	0.11	0.00	0.00	0.01	0.00	79.37	79.37	0.00	0.00	79.46
Total	**0.07**	**0.36**	**0.64**	**0.00**	**0.13**	**0.01**	**0.14**	**0.00**	**0.01**	**0.02**	**0.00**	**148.99**	**148.99**	**0.00**	**0.00**	**149.11**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.44	2.84	2.93	0.01		0.16	0.16		0.16	0.16	0.00	478.23	478.23	0.04	0.00	478.97
Total	**0.44**	**2.84**	**2.93**	**0.01**		**0.16**	**0.16**		**0.16**	**0.16**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**478.97**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.05	0.54	0.37	0.00	0.04	0.02	0.06	0.00	0.02	0.02	0.00	126.40	126.40	0.00	0.00	126.44
Worker	0.07	0.06	0.70	0.00	0.20	0.01	0.21	0.00	0.01	0.01	0.00	140.91	140.91	0.01	0.00	141.04
Total	**0.12**	**0.60**	**1.07**	**0.00**	**0.24**	**0.03**	**0.27**	**0.00**	**0.03**	**0.03**	**0.00**	**267.31**	**267.31**	**0.01**	**0.00**	**267.48**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.46	2.68	3.25	0.01		0.23	0.23		0.23	0.23	0.00	478.23	478.23	0.04	0.00	478.97
Total	**0.46**	**2.68**	**3.25**	**0.01**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**478.23**	**478.23**	**0.04**	**0.00**	**478.97**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.05	0.54	0.37	0.00	0.04	0.02	0.06	0.00	0.02	0.02	0.00	126.40	126.40	0.00	0.00	126.44
Worker	0.07	0.06	0.70	0.00	0.20	0.01	0.21	0.00	0.01	0.01	0.00	140.91	140.91	0.01	0.00	141.04
Total	**0.12**	**0.60**	**1.07**	**0.00**	**0.24**	**0.03**	**0.27**	**0.00**	**0.03**	**0.03**	**0.00**	**267.31**	**267.31**	**0.01**	**0.00**	**267.48**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.40	2.57	2.92	0.01		0.13	0.13		0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
Total	**0.40**	**2.57**	**2.92**	**0.01**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.91**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.05	0.51	0.35	0.00	0.04	0.02	0.06	0.00	0.01	0.02	0.00	126.59	126.59	0.00	0.00	126.63
Worker	0.06	0.06	0.65	0.00	0.20	0.01	0.21	0.00	0.01	0.01	0.00	138.13	138.13	0.01	0.00	138.27
Total	**0.11**	**0.57**	**1.00**	**0.00**	**0.24**	**0.03**	**0.27**	**0.00**	**0.02**	**0.03**	**0.00**	**264.72**	**264.72**	**0.01**	**0.00**	**264.90**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.46	2.68	3.25	0.01		0.23	0.23		0.23	0.23	0.00	478.23	478.23	0.03	0.00	478.91
Total	**0.46**	**2.68**	**3.25**	**0.01**		**0.23**	**0.23**		**0.23**	**0.23**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.91**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.05	0.51	0.35	0.00	0.04	0.02	0.06	0.00	0.01	0.02	0.00	126.59	126.59	0.00	0.00	126.63
Worker	0.06	0.06	0.65	0.00	0.20	0.01	0.21	0.00	0.01	0.01	0.00	138.13	138.13	0.01	0.00	138.27
Total	**0.11**	**0.57**	**1.00**	**0.00**	**0.24**	**0.03**	**0.27**	**0.00**	**0.02**	**0.03**	**0.00**	**264.72**	**264.72**	**0.01**	**0.00**	**264.90**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.10	0.66	0.82	0.00		0.03	0.03		0.03	0.03	0.00	135.59	135.59	0.01	0.00	135.77
Total	**0.10**	**0.66**	**0.82**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**135.59**	**135.59**	**0.01**	**0.00**	**135.77**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.14	0.09	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	35.94	35.94	0.00	0.00	35.95
Worker	0.02	0.02	0.17	0.00	0.06	0.00	0.06	0.00	0.00	0.00	0.00	38.43	38.43	0.00	0.00	38.46
Total	**0.03**	**0.16**	**0.26**	**0.00**	**0.07**	**0.00**	**0.08**	**0.00**	**0.00**	**0.00**	**0.00**	**74.37**	**74.37**	**0.00**	**0.00**	**74.41**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.13	0.76	0.92	0.00		0.07	0.07		0.07	0.07	0.00	135.59	135.59	0.01	0.00	135.77
Total	**0.13**	**0.76**	**0.92**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**135.59**	**135.59**	**0.01**	**0.00**	**135.77**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.14	0.09	0.00	0.01	0.00	0.02	0.00	0.00	0.00	0.00	35.94	35.94	0.00	0.00	35.95
Worker	0.02	0.02	0.17	0.00	0.06	0.00	0.06	0.00	0.00	0.00	0.00	38.43	38.43	0.00	0.00	38.46
Total	**0.03**	**0.16**	**0.26**	**0.00**	**0.07**	**0.00**	**0.08**	**0.00**	**0.00**	**0.00**	**0.00**	**74.37**	**74.37**	**0.00**	**0.00**	**74.41**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.10	0.59	0.55	0.00		0.05	0.05		0.05	0.05	0.00	72.77	72.77	0.01	0.00	72.93
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.10**	**0.59**	**0.55**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**72.77**	**72.77**	**0.01**	**0.00**	**72.93**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	3.30	3.30	0.00	0.00	3.30
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.30**	**3.30**	**0.00**	**0.00**	**3.30**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.07	0.42	0.52	0.00		0.04	0.04		0.04	0.04	0.00	72.77	72.77	0.01	0.00	72.93
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Total	**0.07**	**0.42**	**0.52**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**72.77**	**72.77**	**0.01**	**0.00**	**72.93**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	3.30	3.30	0.00	0.00	3.30
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.30**	**3.30**	**0.00**	**0.00**	**3.30**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.54					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.05	0.05	0.00		0.00	0.00		0.00	0.00	0.00	7.01	7.01	0.00	0.00	7.02
Total	**2.55**	**0.05**	**0.05**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**7.01**	**7.01**	**0.00**	**0.00**	**7.02**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.71	5.71	0.00	0.00	5.72
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.71**	**5.71**	**0.00**	**0.00**	**5.72**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.54					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.04	0.05	0.00		0.00	0.00		0.00	0.00	0.00	7.01	7.01	0.00	0.00	7.02
Total	**2.55**	**0.04**	**0.05**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**7.01**	**7.01**	**0.00**	**0.00**	**7.02**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.71	5.71	0.00	0.00	5.72
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.71**	**5.71**	**0.00**	**0.00**	**5.72**

Grand Park Specific Plan Phase 2 (PA 4,5,6)

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Single Family Housing	361	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Project Description

Construction Phase - Allowance for Demolition of existing structures

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	9.44	69.88	46.96	0.10	18.30	3.10	21.03	9.93	3.10	12.66	0.00	11,055.28	0.00	0.84	0.00	11,073.01
2018	4.23	26.44	30.67	0.07	2.06	1.39	3.45	0.03	1.38	1.41	0.00	6,376.73	0.00	0.37	0.00	6,384.59
2019	3.89	24.09	29.99	0.07	2.06	1.21	3.27	0.03	1.20	1.23	0.00	6,353.82	0.00	0.35	0.00	6,361.06
2020	92.66	21.99	29.40	0.07	2.06	1.66	3.10	0.03	1.66	1.66	0.00	6,332.35	0.00	0.32	0.00	6,339.08
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	7.87	50.33	57.59	0.10	8.36	3.44	10.92	4.47	3.43	7.03	0.00	11,055.28	0.00	0.84	0.00	11,073.01
2018	4.44	25.19	33.11	0.07	2.06	1.99	4.04	0.03	1.97	2.00	0.00	6,376.73	0.00	0.37	0.00	6,384.59
2019	4.39	24.89	32.57	0.07	2.06	1.97	4.03	0.03	1.96	1.99	0.00	6,353.82	0.00	0.35	0.00	6,361.06
2020	92.67	24.63	32.09	0.07	2.06	1.96	4.02	0.03	1.95	1.98	0.00	6,332.35	0.00	0.32	0.00	6,339.08
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.49	0.00	0.49	0.00	0.00	0.00						0.00
Off-Road	6.97	51.47	37.17	0.07		2.39	2.39		2.39	2.39		7,510.81		0.62		7,523.85
Total	**6.97**	**51.47**	**37.17**	**0.07**	**0.49**	**2.39**	**2.88**	**0.00**	**2.39**	**2.39**		**7,510.81**		**0.62**		**7,523.85**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.08	0.80	0.45	0.00	0.54	0.03	0.57	0.00	0.03	0.03		193.43		0.00		193.51
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.06	0.70	0.00	0.20	0.01	0.20	0.00	0.01	0.01		148.97		0.01		149.13
Total	**0.14**	**0.86**	**1.15**	**0.00**	**0.74**	**0.04**	**0.77**	**0.00**	**0.04**	**0.04**		**342.40**		**0.01**		**342.64**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.22	0.00	0.22	0.00	0.00	0.00						0.00
Off-Road	5.39	34.78	40.71	0.07		2.47	2.47		2.47	2.47	0.00	7,510.81		0.62		7,523.85
Total	**5.39**	**34.78**	**40.71**	**0.07**	**0.22**	**2.47**	**2.69**	**0.00**	**2.47**	**2.47**	**0.00**	**7,510.81**		**0.62**		**7,523.85**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.08	0.80	0.45	0.00	0.54	0.03	0.57	0.00	0.03	0.03		193.43		0.00		193.51
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.06	0.70	0.00	0.20	0.01	0.20	0.00	0.01	0.01		148.97		0.01		149.13
Total	**0.14**	**0.86**	**1.15**	**0.00**	**0.74**	**0.04**	**0.77**	**0.00**	**0.04**	**0.04**		**342.40**		**0.01**		**342.64**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	7.89	60.32	37.27	0.07		2.72	2.72		2.72	2.72		7,997.69		0.71		8,012.52
Total	**7.89**	**60.32**	**37.27**	**0.07**	**18.07**	**2.72**	**20.79**	**9.93**	**2.72**	**12.65**		**7,997.69**		**0.71**		**8,012.52**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.84	0.00	0.23	0.01	0.24	0.00	0.01	0.01		178.77		0.01		178.95
Total	**0.08**	**0.07**	**0.84**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**178.77**		**0.01**		**178.95**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	5.92	37.75	39.79	0.07		2.55	2.55		2.55	2.55	0.00	7,997.69		0.71		8,012.52
Total	**5.92**	**37.75**	**39.79**	**0.07**	**8.13**	**2.55**	**10.68**	**4.47**	**2.55**	**7.02**	**0.00**	**7,997.69**		**0.71**		**8,012.52**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.84	0.00	0.23	0.01	0.24	0.00	0.01	0.01		178.77		0.01		178.95

Total	**0.08**	**0.07**	**0.84**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**178.77**		**0.01**		**178.95**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	9.35	69.80	46.02	0.10		3.09	3.09		3.09	3.09		10,856.65		0.83		10,874.18
Total	**9.35**	**69.80**	**46.02**	**0.10**	**8.67**	**3.09**	**11.76**	**3.31**	**3.09**	**6.40**		**10,856.65**		**0.83**		**10,874.18**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.08	0.94	0.00	0.26	0.01	0.27	0.00	0.01	0.01		198.63		0.01		198.83
Total	**0.09**	**0.08**	**0.94**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**198.63**		**0.01**		**198.83**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00

Off-Road	7.79	50.25	56.65	0.10		3.43	3.43		3.43	3.43	0.00	10,856.65		0.83		10,874.18
Total	**7.79**	**50.25**	**56.65**	**0.10**	**3.90**	**3.43**	**7.33**	**1.49**	**3.43**	**4.92**	**0.00**	**10,856.65**		**0.83**		**10,874.18**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.08	0.94	0.00	0.26	0.01	0.27	0.00	0.01	0.01		198.63		0.01		198.83
Total	**0.09**	**0.08**	**0.94**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**198.63**		**0.01**		**198.83**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.66	24.08	22.64	0.04		1.39	1.39		1.39	1.39		4,040.61		0.33		4,047.45
Total	**3.66**	**24.08**	**22.64**	**0.04**		**1.39**	**1.39**		**1.39**	**1.39**		**4,040.61**		**0.33**		**4,047.45**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.40	4.51	2.74	0.01	0.36	0.15	0.50	0.01	0.13	0.14		1,069.51		0.02		1,069.93
Worker	0.55	0.50	6.09	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,291.11		0.06		1,292.42
Total	**0.95**	**5.01**	**8.83**	**0.02**	**2.06**	**0.21**	**2.26**	**0.03**	**0.19**	**0.22**		**2,360.62**		**0.08**		**2,362.35**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.61		0.33		4,047.45
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.61**		**0.33**		**4,047.45**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.40	4.51	2.74	0.01	0.36	0.15	0.50	0.01	0.13	0.14		1,069.51		0.02		1,069.93
Worker	0.55	0.50	6.09	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,291.11		0.06		1,292.42
Total	**0.95**	**5.01**	**8.83**	**0.02**	**2.06**	**0.21**	**2.26**	**0.03**	**0.19**	**0.22**		**2,360.62**		**0.08**		**2,362.35**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20		4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**		**4,040.62**		**0.30**		**4,046.87**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.37	4.20	2.54	0.01	0.36	0.13	0.49	0.01	0.12	0.13		1,071.35		0.02		1,071.73
Worker	0.52	0.46	5.63	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,264.76		0.06		1,265.99
Total	**0.89**	**4.66**	**8.17**	**0.02**	**2.06**	**0.19**	**2.25**	**0.03**	**0.18**	**0.21**		**2,336.11**		**0.08**		**2,337.72**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.62		0.30		4,046.87
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.62**		**0.30**		**4,046.87**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.37	4.20	2.54	0.01	0.36	0.13	0.49	0.01	0.12	0.13		1,071.35		0.02		1,071.73
Worker	0.52	0.46	5.63	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,264.76		0.06		1,265.99
Total	**0.89**	**4.66**	**8.17**	**0.02**	**2.06**	**0.19**	**2.25**	**0.03**	**0.18**	**0.21**		**2,336.11**		**0.08**		**2,337.72**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03		4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**		**4,040.62**		**0.27**		**4,046.36**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.35	3.94	2.39	0.01	0.36	0.12	0.48	0.01	0.11	0.12		1,073.08		0.02		1,073.43
Worker	0.49	0.42	5.25	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,240.12		0.05		1,241.27
Total	**0.84**	**4.36**	**7.64**	**0.02**	**2.06**	**0.18**	**2.24**	**0.03**	**0.17**	**0.20**		**2,313.20**		**0.07**		**2,314.70**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.62		0.27		4,046.36
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.62**		**0.27**		**4,046.36**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.35	3.94	2.39	0.01	0.36	0.12	0.48	0.01	0.11	0.12		1,073.08		0.02		1,073.43
Worker	0.49	0.42	5.25	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,240.12		0.05		1,241.27
Total	**0.84**	**4.36**	**7.64**	**0.02**	**2.06**	**0.18**	**2.24**	**0.03**	**0.17**	**0.20**		**2,313.20**		**0.07**		**2,314.70**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88		4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**		**4,040.62**		**0.25**		**4,045.85**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.33	3.71	2.25	0.01	0.36	0.11	0.47	0.01	0.10	0.11		1,074.67		0.02		1,075.01
Worker	0.47	0.39	4.91	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,217.06		0.05		1,218.15
Total	**0.80**	**4.10**	**7.16**	**0.02**	**2.06**	**0.17**	**2.23**	**0.03**	**0.16**	**0.19**		**2,291.73**		**0.07**		**2,293.16**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.62		0.25		4,045.85
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.62**		**0.25**		**4,045.85**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.33	3.71	2.25	0.01	0.36	0.11	0.47	0.01	0.10	0.11		1,074.67		0.02		1,075.01
Worker	0.47	0.39	4.91	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,217.06		0.05		1,218.15
Total	**0.80**	**4.10**	**7.16**	**0.02**	**2.06**	**0.17**	**2.23**	**0.03**	**0.16**	**0.19**		**2,291.73**		**0.07**		**2,293.16**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.50	21.64	19.87	0.03		1.65	1.65		1.65	1.65		2,917.65		0.31		2,924.25
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.50**	**21.64**	**19.87**	**0.03**		**1.65**	**1.65**		**1.65**	**1.65**		**2,917.65**		**0.31**		**2,924.25**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.57	0.00	0.20	0.01	0.20	0.00	0.01	0.01		140.43		0.01		140.56
Total	**0.05**	**0.04**	**0.57**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**140.43**		**0.01**		**140.56**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.57	15.40	19.00	0.03		1.54	1.54		1.54	1.54	0.00	2,917.65		0.31		2,924.25
Paving	0.00					0.00	0.00		0.00	0.00						0.00

Total	**2.57**	**15.40**	**19.00**	**0.03**		**1.54**	**1.54**		**1.54**	**1.54**	**0.00**	**2,917.65**		**0.31**		**2,924.25**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.57	0.00	0.20	0.01	0.20	0.00	0.01	0.01		140.43		0.01		140.56
Total	**0.05**	**0.04**	**0.57**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**140.43**		**0.01**		**140.56**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	92.33					0.00	0.00		0.00	0.00						0.00
Off-Road	0.24	1.68	1.83	0.00		0.11	0.11		0.11	0.11		281.19		0.02		281.65
Total	**92.57**	**1.68**	**1.83**	**0.00**		**0.11**	**0.11**		**0.11**	**0.11**		**281.19**		**0.02**		**281.65**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.08	0.98	0.00	0.34	0.01	0.35	0.00	0.01	0.02		243.41		0.01		243.63
Total	**0.09**	**0.08**	**0.98**	**0.00**	**0.34**	**0.01**	**0.35**	**0.00**	**0.01**	**0.02**		**243.41**		**0.01**		**243.63**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	92.33					0.00	0.00		0.00	0.00						0.00
Off-Road	0.25	1.48	1.83	0.00		0.15	0.15		0.15	0.15	0.00	281.19		0.02		281.65
Total	**92.58**	**1.48**	**1.83**	**0.00**		**0.15**	**0.15**		**0.15**	**0.15**	**0.00**	**281.19**		**0.02**		**281.65**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.08	0.98	0.00	0.34	0.01	0.35	0.00	0.01	0.02		243.41		0.01		243.63
Total	**0.09**	**0.08**	**0.98**	**0.00**	**0.34**	**0.01**	**0.35**	**0.00**	**0.01**	**0.02**		**243.41**		**0.01**		**243.63**

Grand Park Specific Plan Phase 2 (PA 4,5,6)

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Single Family Housing	361	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Project Description

Construction Phase - Allowance for Demolition of existing structures

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	9.44	69.89	46.89	0.10	18.30	3.10	21.03	9.93	3.10	12.66	0.00	11,038.53	0.00	0.84	0.00	11,056.25
2018	4.29	26.62	30.68	0.07	2.06	1.40	3.45	0.03	1.38	1.41	0.00	6,260.85	0.00	0.37	0.00	6,268.67
2019	3.94	24.24	30.02	0.07	2.06	1.21	3.27	0.03	1.20	1.23	0.00	6,239.54	0.00	0.34	0.00	6,246.74
2020	92.67	22.11	29.44	0.07	2.06	1.66	3.11	0.03	1.66	1.66	0.00	6,219.54	0.00	0.32	0.00	6,226.26
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2017	7.88	50.34	57.52	0.10	8.36	3.44	10.92	4.47	3.43	7.03	0.00	11,038.53	0.00	0.84	0.00	11,056.25
2018	4.49	25.36	33.12	0.07	2.06	1.99	4.04	0.03	1.97	2.00	0.00	6,260.85	0.00	0.37	0.00	6,268.67
2019	4.44	25.03	32.60	0.07	2.06	1.98	4.03	0.03	1.96	1.99	0.00	6,239.54	0.00	0.34	0.00	6,246.74
2020	92.68	24.75	32.14	0.07	2.06	1.97	4.02	0.03	1.95	1.99	0.00	6,219.54	0.00	0.32	0.00	6,226.26
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.49	0.00	0.49	0.00	0.00	0.00						0.00
Off-Road	6.97	51.47	37.17	0.07		2.39	2.39		2.39	2.39		7,510.81		0.62		7,523.85
Total	**6.97**	**51.47**	**37.17**	**0.07**	**0.49**	**2.39**	**2.88**	**0.00**	**2.39**	**2.39**		**7,510.81**		**0.62**		**7,523.85**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.08	0.83	0.50	0.00	0.54	0.03	0.57	0.00	0.03	0.03		192.40		0.00		192.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.07	0.65	0.00	0.20	0.01	0.20	0.00	0.01	0.01		136.41		0.01		136.55
Total	**0.15**	**0.90**	**1.15**	**0.00**	**0.74**	**0.04**	**0.77**	**0.00**	**0.04**	**0.04**		**328.81**		**0.01**		**329.03**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.22	0.00	0.22	0.00	0.00	0.00						0.00
Off-Road	5.39	34.78	40.71	0.07		2.47	2.47		2.47	2.47	0.00	7,510.81		0.62		7,523.85
Total	**5.39**	**34.78**	**40.71**	**0.07**	**0.22**	**2.47**	**2.69**	**0.00**	**2.47**	**2.47**	**0.00**	**7,510.81**		**0.62**		**7,523.85**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.08	0.83	0.50	0.00	0.54	0.03	0.57	0.00	0.03	0.03		192.40		0.00		192.48
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.07	0.65	0.00	0.20	0.01	0.20	0.00	0.01	0.01		136.41		0.01		136.55
Total	**0.15**	**0.90**	**1.15**	**0.00**	**0.74**	**0.04**	**0.77**	**0.00**	**0.04**	**0.04**		**328.81**		**0.01**		**329.03**

3.3 Site Preparation - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	7.89	60.32	37.27	0.07		2.72	2.72		2.72	2.72		7,997.69		0.71		8,012.52
Total	**7.89**	**60.32**	**37.27**	**0.07**	**18.07**	**2.72**	**20.79**	**9.93**	**2.72**	**12.65**		**7,997.69**		**0.71**		**8,012.52**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.08	0.78	0.00	0.23	0.01	0.24	0.00	0.01	0.01		163.69		0.01		163.86
Total	**0.08**	**0.08**	**0.78**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**163.69**		**0.01**		**163.86**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	5.92	37.75	39.79	0.07		2.55	2.55		2.55	2.55	0.00	7,997.69		0.71		8,012.52
Total	**5.92**	**37.75**	**39.79**	**0.07**	**8.13**	**2.55**	**10.68**	**4.47**	**2.55**	**7.02**	**0.00**	**7,997.69**		**0.71**		**8,012.52**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.08	0.78	0.00	0.23	0.01	0.24	0.00	0.01	0.01		163.69		0.01		163.86

Total	**0.08**	**0.08**	**0.78**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**163.69**		**0.01**		**163.86**

3.4 Grading - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	9.35	69.80	46.02	0.10		3.09	3.09		3.09	3.09		10,856.65		0.83		10,874.18
Total	**9.35**	**69.80**	**46.02**	**0.10**	**8.67**	**3.09**	**11.76**	**3.31**	**3.09**	**6.40**		**10,856.65**		**0.83**		**10,874.18**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.09	0.87	0.00	0.26	0.01	0.27	0.00	0.01	0.01		181.88		0.01		182.07
Total	**0.09**	**0.09**	**0.87**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**181.88**		**0.01**		**182.07**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00

Off-Road	7.79	50.25	56.65	0.10		3.43	3.43		3.43	3.43	0.00	10,856.65		0.83		10,874.18
Total	**7.79**	**50.25**	**56.65**	**0.10**	**3.90**	**3.43**	**7.33**	**1.49**	**3.43**	**4.92**	**0.00**	**10,856.65**		**0.83**		**10,874.18**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.09	0.87	0.00	0.26	0.01	0.27	0.00	0.01	0.01		181.88		0.01		182.07
Total	**0.09**	**0.09**	**0.87**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**181.88**		**0.01**		**182.07**

3.5 Building Construction - 2017

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.66	24.08	22.64	0.04		1.39	1.39		1.39	1.39		4,040.61		0.33		4,047.45
Total	**3.66**	**24.08**	**22.64**	**0.04**		**1.39**	**1.39**		**1.39**	**1.39**		**4,040.61**		**0.33**		**4,047.45**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.43	4.65	3.20	0.01	0.36	0.15	0.51	0.01	0.14	0.15		1,060.81		0.02		1,061.25
Worker	0.59	0.57	5.63	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,182.22		0.06		1,183.45
Total	**1.02**	**5.22**	**8.83**	**0.02**	**2.06**	**0.21**	**2.27**	**0.03**	**0.20**	**0.23**		**2,243.03**		**0.08**		**2,244.70**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.61		0.33		4,047.45
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.61**		**0.33**		**4,047.45**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.43	4.65	3.20	0.01	0.36	0.15	0.51	0.01	0.14	0.15		1,060.81		0.02		1,061.25
Worker	0.59	0.57	5.63	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,182.22		0.06		1,183.45
Total	**1.02**	**5.22**	**8.83**	**0.02**	**2.06**	**0.21**	**2.27**	**0.03**	**0.20**	**0.23**		**2,243.03**		**0.08**		**2,244.70**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20		4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**		**4,040.62**		**0.30**		**4,046.87**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.40	4.31	3.00	0.01	0.36	0.13	0.49	0.01	0.12	0.13		1,062.44		0.02		1,062.85
Worker	0.55	0.53	5.19	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,157.79		0.06		1,158.95
Total	**0.95**	**4.84**	**8.19**	**0.02**	**2.06**	**0.19**	**2.25**	**0.03**	**0.18**	**0.21**		**2,220.23**		**0.08**		**2,221.80**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.62		0.30		4,046.87
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.62**		**0.30**		**4,046.87**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.40	4.31	3.00	0.01	0.36	0.13	0.49	0.01	0.12	0.13		1,062.44		0.02		1,062.85
Worker	0.55	0.53	5.19	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,157.79		0.06		1,158.95
Total	**0.95**	**4.84**	**8.19**	**0.02**	**2.06**	**0.19**	**2.25**	**0.03**	**0.18**	**0.21**		**2,220.23**		**0.08**		**2,221.80**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03		4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**		**4,040.62**		**0.27**		**4,046.36**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.37	4.02	2.84	0.01	0.36	0.12	0.48	0.01	0.11	0.12		1,063.98		0.02		1,064.36
Worker	0.52	0.48	4.83	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,134.94		0.05		1,136.02
Total	**0.89**	**4.50**	**7.67**	**0.02**	**2.06**	**0.18**	**2.24**	**0.03**	**0.17**	**0.20**		**2,198.92**		**0.07**		**2,200.38**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.62		0.27		4,046.36
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.62**		**0.27**		**4,046.36**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.37	4.02	2.84	0.01	0.36	0.12	0.48	0.01	0.11	0.12		1,063.98		0.02		1,064.36
Worker	0.52	0.48	4.83	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,134.94		0.05		1,136.02
Total	**0.89**	**4.50**	**7.67**	**0.02**	**2.06**	**0.18**	**2.24**	**0.03**	**0.17**	**0.20**		**2,198.92**		**0.07**		**2,200.38**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88		4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**		**4,040.62**		**0.25**		**4,045.85**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.35	3.78	2.69	0.01	0.36	0.11	0.47	0.01	0.10	0.11		1,065.39		0.02		1,065.74
Worker	0.50	0.45	4.51	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,113.53		0.05		1,114.56
Total	**0.85**	**4.23**	**7.20**	**0.02**	**2.06**	**0.17**	**2.23**	**0.03**	**0.16**	**0.19**		**2,178.92**		**0.07**		**2,180.30**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.55	20.53	24.94	0.04		1.79	1.79		1.79	1.79	0.00	4,040.62		0.25		4,045.85
Total	**3.55**	**20.53**	**24.94**	**0.04**		**1.79**	**1.79**		**1.79**	**1.79**	**0.00**	**4,040.62**		**0.25**		**4,045.85**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.35	3.78	2.69	0.01	0.36	0.11	0.47	0.01	0.10	0.11		1,065.39		0.02		1,065.74
Worker	0.50	0.45	4.51	0.01	1.70	0.06	1.76	0.02	0.06	0.08		1,113.53		0.05		1,114.56
Total	**0.85**	**4.23**	**7.20**	**0.02**	**2.06**	**0.17**	**2.23**	**0.03**	**0.16**	**0.19**		**2,178.92**		**0.07**		**2,180.30**

3.6 Paving - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.50	21.64	19.87	0.03		1.65	1.65		1.65	1.65		2,917.65		0.31		2,924.25
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.50**	**21.64**	**19.87**	**0.03**		**1.65**	**1.65**		**1.65**	**1.65**		**2,917.65**		**0.31**		**2,924.25**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.52	0.00	0.20	0.01	0.20	0.00	0.01	0.01		128.48		0.01		128.60
Total	**0.06**	**0.05**	**0.52**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**128.48**		**0.01**		**128.60**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.57	15.40	19.00	0.03		1.54	1.54		1.54	1.54	0.00	2,917.65		0.31		2,924.25
Paving	0.00					0.00	0.00		0.00	0.00						0.00

Total	**2.57**	**15.40**	**19.00**	**0.03**		**1.54**	**1.54**		**1.54**	**1.54**	**0.00**	**2,917.65**		**0.31**		**2,924.25**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.52	0.00	0.20	0.01	0.20	0.00	0.01	0.01		128.48		0.01		128.60
Total	**0.06**	**0.05**	**0.52**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**128.48**		**0.01**		**128.60**

3.7 Architectural Coating - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	92.33					0.00	0.00		0.00	0.00						0.00
Off-Road	0.24	1.68	1.83	0.00		0.11	0.11		0.11	0.11		281.19		0.02		281.65
Total	**92.57**	**1.68**	**1.83**	**0.00**		**0.11**	**0.11**		**0.11**	**0.11**		**281.19**		**0.02**		**281.65**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.09	0.90	0.00	0.34	0.01	0.35	0.00	0.01	0.02		222.71		0.01		222.91
Total	**0.10**	**0.09**	**0.90**	**0.00**	**0.34**	**0.01**	**0.35**	**0.00**	**0.01**	**0.02**		**222.71**		**0.01**		**222.91**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	92.33					0.00	0.00		0.00	0.00						0.00
Off-Road	0.25	1.48	1.83	0.00		0.15	0.15		0.15	0.15	0.00	281.19		0.02		281.65
Total	**92.58**	**1.48**	**1.83**	**0.00**		**0.15**	**0.15**		**0.15**	**0.15**	**0.00**	**281.19**		**0.02**		**281.65**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.09	0.90	0.00	0.34	0.01	0.35	0.00	0.01	0.02		222.71		0.01		222.91
Total	**0.10**	**0.09**	**0.90**	**0.00**	**0.34**	**0.01**	**0.35**	**0.00**	**0.01**	**0.02**		**222.71**		**0.01**		**222.91**

Grand Park Specific Plan Phase 3 (HS)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
High School	2500	Student

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Project Description

Construction Phase - Demolition of existing structures

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.89	6.27	5.03	0.01	0.96	0.29	1.25	0.40	0.28	0.68	0.00	1,041.43	1,041.43	0.07	0.00	1,042.94
2019	0.53	3.34	4.09	0.01	0.27	0.16	0.44	0.00	0.16	0.17	0.00	801.21	801.21	0.04	0.00	802.09
2020	0.49	3.07	4.02	0.01	0.27	0.14	0.42	0.00	0.14	0.15	0.00	801.74	801.74	0.04	0.00	802.55
2021	0.45	2.78	3.93	0.01	0.27	0.12	0.40	0.00	0.12	0.13	0.00	797.38	797.38	0.04	0.00	798.12
2022	0.42	2.53	3.68	0.01	0.24	0.12	0.35	0.00	0.11	0.12	0.00	735.55	735.55	0.03	0.00	736.24
2023	3.91	0.42	0.51	0.00	0.02	0.03	0.04	0.00	0.03	0.03	0.00	74.18	74.18	0.01	0.00	74.30
Total	**6.69**	**18.41**	**21.26**	**0.05**	**2.03**	**0.86**	**2.90**	**0.40**	**0.84**	**1.28**	**0.00**	**4,251.49**	**4,251.49**	**0.23**	**0.00**	**4,256.24**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.89	6.27	5.03	0.01	0.50	0.29	0.78	0.18	0.28	0.46	0.00	1,041.43	1,041.43	0.07	0.00	1,042.94
2019	0.53	3.34	4.09	0.01	0.27	0.16	0.44	0.00	0.16	0.17	0.00	801.21	801.21	0.04	0.00	802.09
2020	0.49	3.07	4.02	0.01	0.27	0.14	0.42	0.00	0.14	0.15	0.00	801.74	801.74	0.04	0.00	802.55
2021	0.45	2.78	3.93	0.01	0.27	0.12	0.40	0.00	0.12	0.13	0.00	797.38	797.38	0.04	0.00	798.12
2022	0.42	2.53	3.68	0.01	0.24	0.12	0.35	0.00	0.11	0.12	0.00	735.55	735.55	0.03	0.00	736.24
2023	3.91	0.42	0.51	0.00	0.02	0.03	0.04	0.00	0.03	0.03	0.00	74.18	74.18	0.01	0.00	74.30
Total	**6.69**	**18.41**	**21.26**	**0.05**	**1.57**	**0.86**	**2.43**	**0.18**	**0.84**	**1.06**	**0.00**	**4,251.49**	**4,251.49**	**0.23**	**0.00**	**4,256.24**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.03	0.24	0.18	0.00		0.01	0.01		0.01	0.01	0.00	34.06	34.06	0.00	0.00	34.11
Total	**0.03**	**0.24**	**0.18**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.11**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.62	0.00	0.00	0.62
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.62**	**0.62**	**0.00**	**0.00**	**0.62**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.03	0.24	0.18	0.00		0.01	0.01		0.01	0.01	0.00	34.06	34.06	0.00	0.00	34.11
Total	**0.03**	**0.24**	**0.18**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.11**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.62	0.00	0.00	0.62
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.62**	**0.62**	**0.00**	**0.00**	**0.62**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.36	0.00	0.36	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.15	1.12	0.71	0.00		0.05	0.05		0.05	0.05	0.00	145.07	145.07	0.01	0.00	145.32
Total	**0.15**	**1.12**	**0.71**	**0.00**	**0.36**	**0.05**	**0.41**	**0.20**	**0.05**	**0.25**	**0.00**	**145.07**	**145.07**	**0.01**	**0.00**	**145.32**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.99	2.99	0.00	0.00	2.99
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.99**	**2.99**	**0.00**	**0.00**	**2.99**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.16	0.00	0.16	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.15	1.12	0.71	0.00		0.05	0.05		0.05	0.05	0.00	145.07	145.07	0.01	0.00	145.32
Total	**0.15**	**1.12**	**0.71**	**0.00**	**0.16**	**0.05**	**0.21**	**0.09**	**0.05**	**0.14**	**0.00**	**145.07**	**145.07**	**0.01**	**0.00**	**145.32**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.99	2.99	0.00	0.00	2.99

Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.99**	**2.99**	**0.00**	**0.00**	**2.99**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.48	0.00	0.48	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.48	3.51	2.46	0.01		0.15	0.15		0.15	0.15	0.00	541.55	541.55	0.04	0.00	542.37
Total	**0.48**	**3.51**	**2.46**	**0.01**	**0.48**	**0.15**	**0.63**	**0.20**	**0.15**	**0.35**	**0.00**	**541.55**	**541.55**	**0.04**	**0.00**	**542.37**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	9.14	9.14	0.00	0.00	9.15
Total	**0.00**	**0.00**	**0.05**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**9.14**	**9.14**	**0.00**	**0.00**	**9.15**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.21	0.00	0.21	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00

Off-Road	0.48	3.51	2.46	0.01		0.15	0.15		0.15	0.15	0.00	541.55	541.55	0.04	0.00	542.37
Total	**0.48**	**3.51**	**2.46**	**0.01**	**0.21**	**0.15**	**0.36**	**0.09**	**0.15**	**0.24**	**0.00**	**541.55**	**541.55**	**0.04**	**0.00**	**542.37**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	9.14	9.14	0.00	0.00	9.15
Total	**0.00**	**0.00**	**0.05**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**9.14**	**9.14**	**0.00**	**0.00**	**9.15**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.17	1.09	1.12	0.00		0.06	0.06		0.06	0.06	0.00	183.23	183.23	0.01	0.00	183.51
Total	**0.17**	**1.09**	**1.12**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**183.23**	**183.23**	**0.01**	**0.00**	**183.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.03	0.29	0.20	0.00	0.02	0.01	0.03	0.00	0.01	0.01	0.00	67.05	67.05	0.00	0.00	67.08
Worker	0.03	0.03	0.29	0.00	0.08	0.00	0.09	0.00	0.00	0.00	0.00	57.72	57.72	0.00	0.00	57.78
Total	**0.06**	**0.32**	**0.49**	**0.00**	**0.10**	**0.01**	**0.12**	**0.00**	**0.01**	**0.01**	**0.00**	**124.77**	**124.77**	**0.00**	**0.00**	**124.86**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.17	1.09	1.12	0.00		0.06	0.06		0.06	0.06	0.00	183.23	183.23	0.01	0.00	183.51
Total	**0.17**	**1.09**	**1.12**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**183.23**	**183.23**	**0.01**	**0.00**	**183.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.03	0.29	0.20	0.00	0.02	0.01	0.03	0.00	0.01	0.01	0.00	67.05	67.05	0.00	0.00	67.08
Worker	0.03	0.03	0.29	0.00	0.08	0.00	0.09	0.00	0.00	0.00	0.00	57.72	57.72	0.00	0.00	57.78
Total	**0.06**	**0.32**	**0.49**	**0.00**	**0.10**	**0.01**	**0.12**	**0.00**	**0.01**	**0.01**	**0.00**	**124.77**	**124.77**	**0.00**	**0.00**	**124.86**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.40	2.57	2.92	0.01		0.13	0.13		0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
Total	**0.40**	**2.57**	**2.92**	**0.01**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.91**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.07	0.71	0.48	0.00	0.06	0.02	0.08	0.00	0.02	0.02	0.00	175.28	175.28	0.00	0.00	175.34
Worker	0.07	0.06	0.69	0.00	0.21	0.01	0.22	0.00	0.01	0.01	0.00	147.70	147.70	0.01	0.00	147.84
Total	**0.14**	**0.77**	**1.17**	**0.00**	**0.27**	**0.03**	**0.30**	**0.00**	**0.03**	**0.03**	**0.00**	**322.98**	**322.98**	**0.01**	**0.00**	**323.18**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.40	2.57	2.92	0.01		0.13	0.13		0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
Total	**0.40**	**2.57**	**2.92**	**0.01**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.91**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.07	0.71	0.48	0.00	0.06	0.02	0.08	0.00	0.02	0.02	0.00	175.28	175.28	0.00	0.00	175.34
Worker	0.07	0.06	0.69	0.00	0.21	0.01	0.22	0.00	0.01	0.01	0.00	147.70	147.70	0.01	0.00	147.84
Total	**0.14**	**0.77**	**1.17**	**0.00**	**0.27**	**0.03**	**0.30**	**0.00**	**0.03**	**0.03**	**0.00**	**322.98**	**322.98**	**0.01**	**0.00**	**323.18**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.37	2.34	2.91	0.01		0.11	0.11		0.11	0.11	0.00	480.06	480.06	0.03	0.00	480.68
Total	**0.37**	**2.34**	**2.91**	**0.01**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**480.06**	**480.06**	**0.03**	**0.00**	**480.68**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.67	0.46	0.00	0.06	0.02	0.08	0.00	0.02	0.02	0.00	176.20	176.20	0.00	0.00	176.26
Worker	0.06	0.06	0.65	0.00	0.21	0.01	0.22	0.00	0.01	0.01	0.00	145.48	145.48	0.01	0.00	145.61
Total	**0.12**	**0.73**	**1.11**	**0.00**	**0.27**	**0.03**	**0.30**	**0.00**	**0.03**	**0.03**	**0.00**	**321.68**	**321.68**	**0.01**	**0.00**	**321.87**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.37	2.34	2.91	0.01		0.11	0.11		0.11	0.11	0.00	480.06	480.06	0.03	0.00	480.68
Total	**0.37**	**2.34**	**2.91**	**0.01**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**480.06**	**480.06**	**0.03**	**0.00**	**480.68**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.67	0.46	0.00	0.06	0.02	0.08	0.00	0.02	0.02	0.00	176.20	176.20	0.00	0.00	176.26
Worker	0.06	0.06	0.65	0.00	0.21	0.01	0.22	0.00	0.01	0.01	0.00	145.48	145.48	0.01	0.00	145.61
Total	**0.12**	**0.73**	**1.11**	**0.00**	**0.27**	**0.03**	**0.30**	**0.00**	**0.03**	**0.03**	**0.00**	**321.68**	**321.68**	**0.01**	**0.00**	**321.87**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.33	2.10	2.88	0.01		0.10	0.10		0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
Total	**0.33**	**2.10**	**2.88**	**0.01**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.79**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.63	0.43	0.00	0.06	0.02	0.08	0.00	0.02	0.02	0.00	176.01	176.01	0.00	0.00	176.06
Worker	0.06	0.05	0.61	0.00	0.21	0.01	0.22	0.00	0.01	0.01	0.00	143.14	143.14	0.01	0.00	143.27
Total	**0.12**	**0.68**	**1.04**	**0.00**	**0.27**	**0.03**	**0.30**	**0.00**	**0.03**	**0.03**	**0.00**	**319.15**	**319.15**	**0.01**	**0.00**	**319.33**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.33	2.10	2.88	0.01		0.10	0.10		0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
Total	**0.33**	**2.10**	**2.88**	**0.01**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.79**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.63	0.43	0.00	0.06	0.02	0.08	0.00	0.02	0.02	0.00	176.01	176.01	0.00	0.00	176.06
Worker	0.06	0.05	0.61	0.00	0.21	0.01	0.22	0.00	0.01	0.01	0.00	143.14	143.14	0.01	0.00	143.27
Total	**0.12**	**0.68**	**1.04**	**0.00**	**0.27**	**0.03**	**0.30**	**0.00**	**0.03**	**0.03**	**0.00**	**319.15**	**319.15**	**0.01**	**0.00**	**319.33**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.27	1.65	2.49	0.00		0.07	0.07		0.07	0.07	0.00	414.10	414.10	0.02	0.00	414.55
Total	**0.27**	**1.65**	**2.49**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**414.10**	**414.10**	**0.02**	**0.00**	**414.55**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.05	0.52	0.35	0.00	0.05	0.02	0.07	0.00	0.01	0.02	0.00	152.60	152.60	0.00	0.00	152.65
Worker	0.05	0.04	0.50	0.00	0.18	0.01	0.19	0.00	0.01	0.01	0.00	121.89	121.89	0.00	0.00	121.99
Total	**0.10**	**0.56**	**0.85**	**0.00**	**0.23**	**0.03**	**0.26**	**0.00**	**0.02**	**0.03**	**0.00**	**274.49**	**274.49**	**0.00**	**0.00**	**274.64**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.27	1.65	2.49	0.00		0.07	0.07		0.07	0.07	0.00	414.10	414.10	0.02	0.00	414.55
Total	**0.27**	**1.65**	**2.49**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**414.10**	**414.10**	**0.02**	**0.00**	**414.55**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.05	0.52	0.35	0.00	0.05	0.02	0.07	0.00	0.01	0.02	0.00	152.60	152.60	0.00	0.00	152.65
Worker	0.05	0.04	0.50	0.00	0.18	0.01	0.19	0.00	0.01	0.01	0.00	121.89	121.89	0.00	0.00	121.99
Total	**0.10**	**0.56**	**0.85**	**0.00**	**0.23**	**0.03**	**0.26**	**0.00**	**0.02**	**0.03**	**0.00**	**274.49**	**274.49**	**0.00**	**0.00**	**274.64**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.33	0.00		0.02	0.02		0.02	0.02	0.00	44.98	44.98	0.00	0.00	45.07
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.33**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**44.98**	**44.98**	**0.00**	**0.00**	**45.07**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98	1.98	0.00	0.00	1.98
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.98**	**1.98**	**0.00**	**0.00**	**1.98**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.33	0.00		0.02	0.02		0.02	0.02	0.00	44.98	44.98	0.00	0.00	45.07
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.33**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**44.98**	**44.98**	**0.00**	**0.00**	**45.07**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98	1.98	0.00	0.00	1.98
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.98**	**1.98**	**0.00**	**0.00**	**1.98**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.06	0.36	0.40	0.00		0.02	0.02		0.02	0.02	0.00	54.25	54.25	0.00	0.00	54.34
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.06**	**0.36**	**0.40**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**54.25**	**54.25**	**0.00**	**0.00**	**54.34**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.35	2.35	0.00	0.00	2.35
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.35**	**2.35**	**0.00**	**0.00**	**2.35**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.06	0.36	0.40	0.00		0.02	0.02		0.02	0.02	0.00	54.25	54.25	0.00	0.00	54.34
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.06**	**0.36**	**0.40**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**54.25**	**54.25**	**0.00**	**0.00**	**54.34**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.35	2.35	0.00	0.00	2.35
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.35**	**2.35**	**0.00**	**0.00**	**2.35**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.84					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.05	0.07	0.00		0.00	0.00		0.00	0.00	0.00	9.56	9.56	0.00	0.00	9.58
Total	**3.85**	**0.05**	**0.07**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**9.56**	**9.56**	**0.00**	**0.00**	**9.58**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	8.02	8.02	0.00	0.00	8.03
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**8.02**	**8.02**	**0.00**	**0.00**	**8.03**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	3.84					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.05	0.07	0.00		0.00	0.00		0.00	0.00	0.00	9.56	9.56	0.00	0.00	9.58
Total	**3.85**	**0.05**	**0.07**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**9.56**	**9.56**	**0.00**	**0.00**	**9.58**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	8.02	8.02	0.00	0.00	8.03
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**8.02**	**8.02**	**0.00**	**0.00**	**8.03**

Grand Park Specific Plan Phase 3 (HS)

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
High School	2500	Student

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Project Description

Construction Phase - Demolition of existing structures

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	8.87	63.82	45.65	0.10	18.30	2.77	20.77	9.93	2.77	12.40	0.00	11,051.24	0.00	0.79	0.00	11,067.91
2019	4.06	25.64	31.27	0.07	2.31	1.26	3.57	0.04	1.24	1.28	0.00	6,852.39	0.00	0.36	0.00	6,859.86
2020	3.75	23.44	30.60	0.07	2.31	1.10	3.41	0.04	1.08	1.12	0.00	6,829.95	0.00	0.33	0.00	6,836.81
2021	3.47	21.34	30.00	0.07	2.31	0.95	3.26	0.04	0.93	0.97	0.00	6,818.26	0.00	0.30	0.00	6,824.57
2022	3.25	19.58	29.49	0.07	2.31	1.35	3.13	0.04	1.35	1.35	0.00	6,799.12	0.00	0.28	0.00	6,805.03
2023	102.67	17.75	20.05	0.03	0.37	1.21	1.40	0.00	1.21	1.21	0.00	3,051.95	0.00	0.26	0.00	3,057.40
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	8.87	63.82	45.65	0.10	8.36	2.77	10.83	4.47	2.77	6.94	0.00	11,051.24	0.00	0.79	0.00	11,067.91
2019	4.06	25.64	31.27	0.07	2.31	1.26	3.57	0.04	1.24	1.28	0.00	6,852.39	0.00	0.36	0.00	6,859.86
2020	3.75	23.44	30.60	0.07	2.31	1.10	3.41	0.04	1.08	1.12	0.00	6,829.95	0.00	0.33	0.00	6,836.81
2021	3.47	21.34	30.00	0.07	2.31	0.95	3.26	0.04	0.93	0.97	0.00	6,818.26	0.00	0.30	0.00	6,824.57
2022	3.25	19.58	29.49	0.07	2.31	1.35	3.13	0.04	1.35	1.35	0.00	6,799.12	0.00	0.28	0.00	6,805.03
2023	102.67	17.75	20.05	0.03	0.37	1.21	1.40	0.00	1.21	1.21	0.00	3,051.95	0.00	0.26	0.00	3,057.40
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.53	47.15	36.13	0.07		2.15	2.15		2.15	2.15		7,510.82		0.58		7,522.96
Total	**6.53**	**47.15**	**36.13**	**0.07**		**2.15**	**2.15**		**2.15**	**2.15**		**7,510.82**		**0.58**		**7,522.96**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.65	0.00	0.20	0.01	0.20	0.00	0.01	0.01		145.93		0.01		146.08
Total	**0.06**	**0.05**	**0.65**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**145.93**		**0.01**		**146.08**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.53	47.15	36.13	0.07		2.15	2.15		2.15	2.15	0.00	7,510.82		0.58		7,522.96
Total	**6.53**	**47.15**	**36.13**	**0.07**		**2.15**	**2.15**		**2.15**	**2.15**	**0.00**	**7,510.82**		**0.58**		**7,522.96**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.65	0.00	0.20	0.01	0.20	0.00	0.01	0.01		145.93		0.01		146.08
Total	**0.06**	**0.05**	**0.65**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**145.93**		**0.01**		**146.08**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	7.44	56.03	35.70	0.07		2.46	2.46		2.46	2.46		7,997.69		0.66		8,011.57
Total	**7.44**	**56.03**	**35.70**	**0.07**	**18.07**	**2.46**	**20.53**	**9.93**	**2.46**	**12.39**		**7,997.69**		**0.66**		**8,011.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.78	0.00	0.23	0.01	0.24	0.00	0.01	0.01		175.12		0.01		175.29
Total	**0.07**	**0.06**	**0.78**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**175.12**		**0.01**		**175.29**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	7.44	56.03	35.70	0.07		2.46	2.46		2.46	2.46	0.00	7,997.69		0.66		8,011.57
Total	**7.44**	**56.03**	**35.70**	**0.07**	**8.13**	**2.46**	**10.59**	**4.47**	**2.46**	**6.93**	**0.00**	**7,997.69**		**0.66**		**8,011.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.78	0.00	0.23	0.01	0.24	0.00	0.01	0.01		175.12		0.01		175.29

Total	**0.07**	**0.06**	**0.78**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**175.12**		**0.01**		**175.29**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	8.79	63.75	44.78	0.10		2.76	2.76		2.76	2.76		10,856.66		0.79		10,873.14
Total	**8.79**	**63.75**	**44.78**	**0.10**	**8.67**	**2.76**	**11.43**	**3.31**	**2.76**	**6.07**		**10,856.66**		**0.79**		**10,873.14**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.87	0.00	0.26	0.01	0.27	0.00	0.01	0.01		194.58		0.01		194.77
Total	**0.08**	**0.07**	**0.87**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**194.58**		**0.01**		**194.77**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00

Off-Road	8.79	63.75	44.78	0.10		2.76	2.76		2.76	2.76	0.00	10,856.66		0.79		10,873.14
Total	**8.79**	**63.75**	**44.78**	**0.10**	**3.90**	**2.76**	**6.66**	**1.49**	**2.76**	**4.25**	**0.00**	**10,856.66**		**0.79**		**10,873.14**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.87	0.00	0.26	0.01	0.27	0.00	0.01	0.01		194.58		0.01		194.77
Total	**0.08**	**0.07**	**0.87**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**194.58**		**0.01**		**194.77**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20		4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**		**4,040.62**		**0.30**		**4,046.87**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.52	5.82	3.52	0.01	0.50	0.18	0.68	0.01	0.17	0.18		1,483.40		0.03		1,483.93
Worker	0.56	0.49	6.02	0.02	1.81	0.07	1.88	0.02	0.06	0.08		1,352.32		0.06		1,353.64
Total	**1.08**	**6.31**	**9.54**	**0.03**	**2.31**	**0.25**	**2.56**	**0.03**	**0.23**	**0.26**		**2,835.72**		**0.09**		**2,837.57**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20	0.00	4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**	**0.00**	**4,040.62**		**0.30**		**4,046.87**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.52	5.82	3.52	0.01	0.50	0.18	0.68	0.01	0.17	0.18		1,483.40		0.03		1,483.93
Worker	0.56	0.49	6.02	0.02	1.81	0.07	1.88	0.02	0.06	0.08		1,352.32		0.06		1,353.64
Total	**1.08**	**6.31**	**9.54**	**0.03**	**2.31**	**0.25**	**2.56**	**0.03**	**0.23**	**0.26**		**2,835.72**		**0.09**		**2,837.57**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03		4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**		**4,040.62**		**0.27**		**4,046.36**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.48	5.45	3.30	0.01	0.50	0.17	0.66	0.01	0.15	0.17		1,485.80		0.02		1,486.29
Worker	0.53	0.45	5.61	0.02	1.81	0.07	1.88	0.02	0.06	0.08		1,325.97		0.06		1,327.21
Total	**1.01**	**5.90**	**8.91**	**0.03**	**2.31**	**0.24**	**2.54**	**0.03**	**0.21**	**0.25**		**2,811.77**		**0.08**		**2,813.50**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03	0.00	4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**	**0.00**	**4,040.62**		**0.27**		**4,046.36**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.48	5.45	3.30	0.01	0.50	0.17	0.66	0.01	0.15	0.17		1,485.80		0.02		1,486.29
Worker	0.53	0.45	5.61	0.02	1.81	0.07	1.88	0.02	0.06	0.08		1,325.97		0.06		1,327.21
Total	**1.01**	**5.90**	**8.91**	**0.03**	**2.31**	**0.24**	**2.54**	**0.03**	**0.21**	**0.25**		**2,811.77**		**0.08**		**2,813.50**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88		4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**		**4,040.62**		**0.25**		**4,045.85**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.45	5.14	3.11	0.01	0.50	0.15	0.65	0.01	0.14	0.15		1,488.01		0.02		1,488.47
Worker	0.50	0.42	5.25	0.02	1.81	0.07	1.88	0.02	0.06	0.09		1,301.32		0.06		1,302.48
Total	**0.95**	**5.56**	**8.36**	**0.03**	**2.31**	**0.22**	**2.53**	**0.03**	**0.20**	**0.24**		**2,789.33**		**0.08**		**2,790.95**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88	0.00	4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**	**0.00**	**4,040.62**		**0.25**		**4,045.85**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.45	5.14	3.11	0.01	0.50	0.15	0.65	0.01	0.14	0.15		1,488.01		0.02		1,488.47
Worker	0.50	0.42	5.25	0.02	1.81	0.07	1.88	0.02	0.06	0.09		1,301.32		0.06		1,302.48
Total	**0.95**	**5.56**	**8.36**	**0.03**	**2.31**	**0.22**	**2.53**	**0.03**	**0.20**	**0.24**		**2,789.33**		**0.08**		**2,790.95**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74		4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**		**4,040.61**		**0.23**		**4,045.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.43	4.87	2.94	0.01	0.50	0.14	0.64	0.01	0.13	0.14		1,492.19		0.02		1,492.63
Worker	0.48	0.39	4.96	0.02	1.81	0.07	1.88	0.02	0.06	0.09		1,285.45		0.05		1,286.56
Total	**0.91**	**5.26**	**7.90**	**0.03**	**2.31**	**0.21**	**2.52**	**0.03**	**0.19**	**0.23**		**2,777.64**		**0.07**		**2,779.19**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74	0.00	4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**	**0.00**	**4,040.61**		**0.23**		**4,045.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.43	4.87	2.94	0.01	0.50	0.14	0.64	0.01	0.13	0.14		1,492.19		0.02		1,492.63
Worker	0.48	0.39	4.96	0.02	1.81	0.07	1.88	0.02	0.06	0.09		1,285.45		0.05		1,286.56
Total	**0.91**	**5.26**	**7.90**	**0.03**	**2.31**	**0.21**	**2.52**	**0.03**	**0.19**	**0.23**		**2,777.64**		**0.07**		**2,779.19**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62		4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**		**4,040.61**		**0.21**		**4,045.05**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.40	4.65	2.79	0.01	0.50	0.13	0.63	0.01	0.12	0.14		1,494.20		0.02		1,494.60
Worker	0.46	0.36	4.67	0.02	1.81	0.07	1.88	0.02	0.06	0.09		1,264.31		0.05		1,265.37
Total	**0.86**	**5.01**	**7.46**	**0.03**	**2.31**	**0.20**	**2.51**	**0.03**	**0.18**	**0.23**		**2,758.51**		**0.07**		**2,759.97**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62	0.00	4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**	**0.00**	**4,040.61**		**0.21**		**4,045.05**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.40	4.65	2.79	0.01	0.50	0.13	0.63	0.01	0.12	0.14		1,494.20		0.02		1,494.60
Worker	0.46	0.36	4.67	0.02	1.81	0.07	1.88	0.02	0.06	0.09		1,264.31		0.05		1,265.37
Total	**0.86**	**5.01**	**7.46**	**0.03**	**2.31**	**0.20**	**2.51**	**0.03**	**0.18**	**0.23**		**2,758.51**		**0.07**		**2,759.97**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.04	18.93	19.66	0.03		1.34	1.34		1.34	1.34		2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.04**	**18.93**	**19.66**	**0.03**		**1.34**	**1.34**		**1.34**	**1.34**		**2,917.64**		**0.27**		**2,923.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Worker	0.05	0.04	0.50	0.00	0.20	0.01	0.20	0.00	0.01	0.01		136.44		0.01		136.55
Total	**0.05**	**0.04**	**0.50**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**136.44**		**0.01**		**136.55**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.04	18.93	19.66	0.03		1.34	1.34		1.34	1.34	0.00	2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.04**	**18.93**	**19.66**	**0.03**		**1.34**	**1.34**		**1.34**	**1.34**	**0.00**	**2,917.64**		**0.27**		**2,923.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.50	0.00	0.20	0.01	0.20	0.00	0.01	0.01		136.44		0.01		136.55
Total	**0.05**	**0.04**	**0.50**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**136.44**		**0.01**		**136.55**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	2.84	17.71	19.58	0.03		1.20	1.20		1.20	1.20		2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.84**	**17.71**	**19.58**	**0.03**		**1.20**	**1.20**		**1.20**	**1.20**		**2,917.64**		**0.25**		**2,922.99**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.47	0.00	0.20	0.01	0.20	0.00	0.01	0.01		134.31		0.01		134.42
Total	**0.05**	**0.04**	**0.47**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**134.31**		**0.01**		**134.42**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.84	17.71	19.58	0.03		1.20	1.20		1.20	1.20	0.00	2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.84**	**17.71**	**19.58**	**0.03**		**1.20**	**1.20**		**1.20**	**1.20**	**0.00**	**2,917.64**		**0.25**		**2,922.99**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.47	0.00	0.20	0.01	0.20	0.00	0.01	0.01		134.31		0.01		134.42
Total	**0.05**	**0.04**	**0.47**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**134.31**		**0.01**		**134.42**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	102.39					0.00	0.00		0.00	0.00						0.00
Off-Road	0.19	1.30	1.81	0.00		0.07	0.07		0.07	0.07		281.19		0.02		281.54
Total	**102.58**	**1.30**	**1.81**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**		**281.19**		**0.02**		**281.54**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.07	0.89	0.00	0.37	0.01	0.38	0.00	0.01	0.02		250.71		0.01		250.91
Total	**0.09**	**0.07**	**0.89**	**0.00**	**0.37**	**0.01**	**0.38**	**0.00**	**0.01**	**0.02**		**250.71**		**0.01**		**250.91**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	102.39					0.00	0.00		0.00	0.00						0.00
Off-Road	0.19	1.30	1.81	0.00		0.07	0.07		0.07	0.07	0.00	281.19		0.02		281.54
Total	**102.58**	**1.30**	**1.81**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**281.19**		**0.02**		**281.54**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.09	0.07	0.89	0.00	0.37	0.01	0.38	0.00	0.01	0.02		250.71		0.01		250.91
Total	**0.09**	**0.07**	**0.89**	**0.00**	**0.37**	**0.01**	**0.38**	**0.00**	**0.01**	**0.02**		**250.71**		**0.01**		**250.91**

Grand Park Specific Plan Phase 3 (HS)

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
High School	2500	Student

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Project Description

Construction Phase - Demolition of existing structures

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	8.88	63.83	45.58	0.10	18.30	2.77	20.77	9.93	2.77	12.40	0.00	11,034.78	0.00	0.79	0.00	11,051.44
2019	4.12	25.82	31.44	0.07	2.31	1.26	3.58	0.04	1.25	1.28	0.00	6,727.33	0.00	0.35	0.00	6,734.76
2020	3.81	23.59	30.79	0.07	2.31	1.10	3.41	0.04	1.08	1.12	0.00	6,706.40	0.00	0.32	0.00	6,713.22
2021	3.53	21.46	30.20	0.07	2.31	0.95	3.26	0.04	0.93	0.97	0.00	6,695.62	0.00	0.30	0.00	6,701.89
2022	3.31	19.67	29.69	0.07	2.31	1.35	3.13	0.04	1.35	1.35	0.00	6,677.77	0.00	0.28	0.00	6,683.63
2023	102.68	17.75	20.01	0.03	0.37	1.21	1.40	0.00	1.21	1.21	0.00	3,040.45	0.00	0.26	0.00	3,045.89
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	8.88	63.83	45.58	0.10	8.36	2.77	10.83	4.47	2.77	6.94	0.00	11,034.78	0.00	0.79	0.00	11,051.44
2019	4.12	25.82	31.44	0.07	2.31	1.26	3.58	0.04	1.25	1.28	0.00	6,727.33	0.00	0.35	0.00	6,734.76
2020	3.81	23.59	30.79	0.07	2.31	1.10	3.41	0.04	1.08	1.12	0.00	6,706.40	0.00	0.32	0.00	6,713.22
2021	3.53	21.46	30.20	0.07	2.31	0.95	3.26	0.04	0.93	0.97	0.00	6,695.62	0.00	0.30	0.00	6,701.89
2022	3.31	19.67	29.69	0.07	2.31	1.35	3.13	0.04	1.35	1.35	0.00	6,677.77	0.00	0.28	0.00	6,683.63
2023	102.68	17.75	20.01	0.03	0.37	1.21	1.40	0.00	1.21	1.21	0.00	3,040.45	0.00	0.26	0.00	3,045.89
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.53	47.15	36.13	0.07		2.15	2.15		2.15	2.15		7,510.82		0.58		7,522.96
Total	**6.53**	**47.15**	**36.13**	**0.07**		**2.15**	**2.15**		**2.15**	**2.15**		**7,510.82**		**0.58**		**7,522.96**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.06	0.60	0.00	0.20	0.01	0.20	0.00	0.01	0.01		133.59		0.01		133.73
Total	**0.06**	**0.06**	**0.60**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**133.59**		**0.01**		**133.73**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	6.53	47.15	36.13	0.07		2.15	2.15		2.15	2.15	0.00	7,510.82		0.58		7,522.96
Total	**6.53**	**47.15**	**36.13**	**0.07**		**2.15**	**2.15**		**2.15**	**2.15**	**0.00**	**7,510.82**		**0.58**		**7,522.96**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.06	0.60	0.00	0.20	0.01	0.20	0.00	0.01	0.01		133.59		0.01		133.73
Total	**0.06**	**0.06**	**0.60**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**133.59**		**0.01**		**133.73**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	7.44	56.03	35.70	0.07		2.46	2.46		2.46	2.46		7,997.69		0.66		8,011.57
Total	**7.44**	**56.03**	**35.70**	**0.07**	**18.07**	**2.46**	**20.53**	**9.93**	**2.46**	**12.39**		**7,997.69**		**0.66**		**8,011.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.72	0.00	0.23	0.01	0.24	0.00	0.01	0.01		160.31		0.01		160.47
Total	**0.08**	**0.07**	**0.72**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**160.31**		**0.01**		**160.47**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	7.44	56.03	35.70	0.07		2.46	2.46		2.46	2.46	0.00	7,997.69		0.66		8,011.57
Total	**7.44**	**56.03**	**35.70**	**0.07**	**8.13**	**2.46**	**10.59**	**4.47**	**2.46**	**6.93**	**0.00**	**7,997.69**		**0.66**		**8,011.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.72	0.00	0.23	0.01	0.24	0.00	0.01	0.01		160.31		0.01		160.47

Total	**0.08**	**0.07**	**0.72**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**160.31**		**0.01**		**160.47**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	8.79	63.75	44.78	0.10		2.76	2.76		2.76	2.76		10,856.66		0.79		10,873.14
Total	**8.79**	**63.75**	**44.78**	**0.10**	**8.67**	**2.76**	**11.43**	**3.31**	**2.76**	**6.07**		**10,856.66**		**0.79**		**10,873.14**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.08	0.80	0.00	0.26	0.01	0.27	0.00	0.01	0.01		178.12		0.01		178.30
Total	**0.08**	**0.08**	**0.80**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**178.12**		**0.01**		**178.30**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00

Off-Road	8.79	63.75	44.78	0.10		2.76	2.76		2.76	2.76	0.00	10,856.66		0.79		10,873.14
Total	**8.79**	**63.75**	**44.78**	**0.10**	**3.90**	**2.76**	**6.66**	**1.49**	**2.76**	**4.25**	**0.00**	**10,856.66**		**0.79**		**10,873.14**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.08	0.80	0.00	0.26	0.01	0.27	0.00	0.01	0.01		178.12		0.01		178.30
Total	**0.08**	**0.08**	**0.80**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**178.12**		**0.01**		**178.30**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20		4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**		**4,040.62**		**0.30**		**4,046.87**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.55	5.97	4.15	0.01	0.50	0.19	0.68	0.01	0.17	0.18		1,471.08		0.03		1,471.64
Worker	0.59	0.56	5.55	0.01	1.81	0.07	1.88	0.02	0.06	0.08		1,237.95		0.06		1,239.19
Total	**1.14**	**6.53**	**9.70**	**0.02**	**2.31**	**0.26**	**2.56**	**0.03**	**0.23**	**0.26**		**2,709.03**		**0.09**		**2,710.83**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20	0.00	4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**	**0.00**	**4,040.62**		**0.30**		**4,046.87**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.55	5.97	4.15	0.01	0.50	0.19	0.68	0.01	0.17	0.18		1,471.08		0.03		1,471.64
Worker	0.59	0.56	5.55	0.01	1.81	0.07	1.88	0.02	0.06	0.08		1,237.95		0.06		1,239.19
Total	**1.14**	**6.53**	**9.70**	**0.02**	**2.31**	**0.26**	**2.56**	**0.03**	**0.23**	**0.26**		**2,709.03**		**0.09**		**2,710.83**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03		4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**		**4,040.62**		**0.27**		**4,046.36**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.51	5.57	3.93	0.01	0.50	0.17	0.67	0.01	0.16	0.17		1,473.21		0.02		1,473.73
Worker	0.56	0.52	5.16	0.01	1.81	0.07	1.88	0.02	0.06	0.08		1,213.51		0.06		1,214.67
Total	**1.07**	**6.09**	**9.09**	**0.02**	**2.31**	**0.24**	**2.55**	**0.03**	**0.22**	**0.25**		**2,686.72**		**0.08**		**2,688.40**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03	0.00	4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**	**0.00**	**4,040.62**		**0.27**		**4,046.36**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.51	5.57	3.93	0.01	0.50	0.17	0.67	0.01	0.16	0.17		1,473.21		0.02		1,473.73
Worker	0.56	0.52	5.16	0.01	1.81	0.07	1.88	0.02	0.06	0.08		1,213.51		0.06		1,214.67
Total	**1.07**	**6.09**	**9.09**	**0.02**	**2.31**	**0.24**	**2.55**	**0.03**	**0.22**	**0.25**		**2,686.72**		**0.08**		**2,688.40**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88		4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**		**4,040.62**		**0.25**		**4,045.85**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.48	5.23	3.73	0.01	0.50	0.16	0.65	0.01	0.14	0.16		1,475.16		0.02		1,475.65
Worker	0.53	0.48	4.82	0.01	1.81	0.07	1.88	0.02	0.06	0.09		1,190.63		0.05		1,191.72
Total	**1.01**	**5.71**	**8.55**	**0.02**	**2.31**	**0.23**	**2.53**	**0.03**	**0.20**	**0.25**		**2,665.79**		**0.07**		**2,667.37**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88	0.00	4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**	**0.00**	**4,040.62**		**0.25**		**4,045.85**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.48	5.23	3.73	0.01	0.50	0.16	0.65	0.01	0.14	0.16		1,475.16		0.02		1,475.65
Worker	0.53	0.48	4.82	0.01	1.81	0.07	1.88	0.02	0.06	0.09		1,190.63		0.05		1,191.72
Total	**1.01**	**5.71**	**8.55**	**0.02**	**2.31**	**0.23**	**2.53**	**0.03**	**0.20**	**0.25**		**2,665.79**		**0.07**		**2,667.37**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74		4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**		**4,040.61**		**0.23**		**4,045.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.45	4.94	3.55	0.01	0.50	0.15	0.64	0.01	0.13	0.15		1,479.10		0.02		1,479.56
Worker	0.51	0.44	4.55	0.01	1.81	0.07	1.88	0.02	0.06	0.09		1,175.90		0.05		1,176.95
Total	**0.96**	**5.38**	**8.10**	**0.02**	**2.31**	**0.22**	**2.52**	**0.03**	**0.19**	**0.24**		**2,655.00**		**0.07**		**2,656.51**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74	0.00	4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**	**0.00**	**4,040.61**		**0.23**		**4,045.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.45	4.94	3.55	0.01	0.50	0.15	0.64	0.01	0.13	0.15		1,479.10		0.02		1,479.56
Worker	0.51	0.44	4.55	0.01	1.81	0.07	1.88	0.02	0.06	0.09		1,175.90		0.05		1,176.95
Total	**0.96**	**5.38**	**8.10**	**0.02**	**2.31**	**0.22**	**2.52**	**0.03**	**0.19**	**0.24**		**2,655.00**		**0.07**		**2,656.51**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62		4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**		**4,040.61**		**0.21**		**4,045.05**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.43	4.69	3.38	0.01	0.50	0.14	0.63	0.01	0.12	0.14		1,480.85		0.02		1,481.29
Worker	0.49	0.41	4.27	0.01	1.81	0.07	1.88	0.02	0.06	0.09		1,156.30		0.05		1,157.29
Total	**0.92**	**5.10**	**7.65**	**0.02**	**2.31**	**0.21**	**2.51**	**0.03**	**0.18**	**0.23**		**2,637.15**		**0.07**		**2,638.58**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62	0.00	4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**	**0.00**	**4,040.61**		**0.21**		**4,045.05**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.43	4.69	3.38	0.01	0.50	0.14	0.63	0.01	0.12	0.14		1,480.85		0.02		1,481.29
Worker	0.49	0.41	4.27	0.01	1.81	0.07	1.88	0.02	0.06	0.09		1,156.30		0.05		1,157.29
Total	**0.92**	**5.10**	**7.65**	**0.02**	**2.31**	**0.21**	**2.51**	**0.03**	**0.18**	**0.23**		**2,637.15**		**0.07**		**2,638.58**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.04	18.93	19.66	0.03		1.34	1.34		1.34	1.34		2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.04**	**18.93**	**19.66**	**0.03**		**1.34**	**1.34**		**1.34**	**1.34**		**2,917.64**		**0.27**		**2,923.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Worker	0.05	0.04	0.46	0.00	0.20	0.01	0.20	0.00	0.01	0.01		124.78		0.01		124.89
Total	**0.05**	**0.04**	**0.46**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**124.78**		**0.01**		**124.89**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.04	18.93	19.66	0.03		1.34	1.34		1.34	1.34	0.00	2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.04**	**18.93**	**19.66**	**0.03**		**1.34**	**1.34**		**1.34**	**1.34**	**0.00**	**2,917.64**		**0.27**		**2,923.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.46	0.00	0.20	0.01	0.20	0.00	0.01	0.01		124.78		0.01		124.89
Total	**0.05**	**0.04**	**0.46**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**124.78**		**0.01**		**124.89**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	2.84	17.71	19.58	0.03		1.20	1.20		1.20	1.20		2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.84**	**17.71**	**19.58**	**0.03**		**1.20**	**1.20**		**1.20**	**1.20**		**2,917.64**		**0.25**		**2,922.99**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.43	0.00	0.20	0.01	0.20	0.00	0.01	0.01		122.80		0.00		122.91
Total	**0.05**	**0.04**	**0.43**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**122.80**		**0.00**		**122.91**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.84	17.71	19.58	0.03		1.20	1.20		1.20	1.20	0.00	2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.84**	**17.71**	**19.58**	**0.03**		**1.20**	**1.20**		**1.20**	**1.20**	**0.00**	**2,917.64**		**0.25**		**2,922.99**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.43	0.00	0.20	0.01	0.20	0.00	0.01	0.01		122.80		0.00		122.91
Total	**0.05**	**0.04**	**0.43**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**122.80**		**0.00**		**122.91**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	102.39					0.00	0.00		0.00	0.00						0.00
Off-Road	0.19	1.30	1.81	0.00		0.07	0.07		0.07	0.07		281.19		0.02		281.54
Total	**102.58**	**1.30**	**1.81**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**		**281.19**		**0.02**		**281.54**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.08	0.81	0.00	0.37	0.01	0.38	0.00	0.01	0.02		229.23		0.01		229.42
Total	**0.10**	**0.08**	**0.81**	**0.00**	**0.37**	**0.01**	**0.38**	**0.00**	**0.01**	**0.02**		**229.23**		**0.01**		**229.42**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	102.39					0.00	0.00		0.00	0.00						0.00
Off-Road	0.19	1.30	1.81	0.00		0.07	0.07		0.07	0.07	0.00	281.19		0.02		281.54
Total	**102.58**	**1.30**	**1.81**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**281.19**		**0.02**		**281.54**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.10	0.08	0.81	0.00	0.37	0.01	0.38	0.00	0.01	0.02		229.23		0.01		229.42
Total	**0.10**	**0.08**	**0.81**	**0.00**	**0.37**	**0.01**	**0.38**	**0.00**	**0.01**	**0.02**		**229.23**		**0.01**		**229.42**

Grand Park Specific Plan - Phase 3 (1/2 City Park)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
City Park	65	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Minimal demolition of existing structures

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.84	5.96	4.54	0.01	0.86	0.27	1.13	0.40	0.27	0.67	0.00	916.65	916.65	0.07	0.00	918.08
2019	0.40	2.57	2.92	0.01	0.00	0.13	0.13	0.00	0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
2020	0.37	2.34	2.91	0.01	0.00	0.11	0.11	0.00	0.11	0.11	0.00	480.06	480.06	0.03	0.00	480.68
2021	0.33	2.10	2.88	0.01	0.00	0.10	0.10	0.00	0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
2022	0.32	1.97	2.83	0.01	0.00	0.09	0.10	0.00	0.09	0.09	0.00	461.06	461.06	0.03	0.00	461.61
2023	0.06	0.36	0.41	0.00	0.00	0.02	0.03	0.00	0.02	0.02	0.00	56.59	56.59	0.00	0.00	56.70
Total	**2.32**	**15.30**	**16.49**	**0.05**	**0.86**	**0.72**	**1.60**	**0.40**	**0.72**	**1.12**	**0.00**	**2,870.82**	**2,870.82**	**0.19**	**0.00**	**2,874.77**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2018	0.84	5.96	4.54	0.01	0.40	0.27	0.67	0.18	0.27	0.45	0.00	916.65	916.65	0.07	0.00	918.08
2019	0.40	2.57	2.92	0.01	0.00	0.13	0.13	0.00	0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
2020	0.37	2.34	2.91	0.01	0.00	0.11	0.11	0.00	0.11	0.11	0.00	480.06	480.06	0.03	0.00	480.68
2021	0.33	2.10	2.88	0.01	0.00	0.10	0.10	0.00	0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
2022	0.32	1.97	2.83	0.01	0.00	0.09	0.10	0.00	0.09	0.09	0.00	461.06	461.06	0.03	0.00	461.61
2023	0.06	0.36	0.41	0.00	0.00	0.02	0.03	0.00	0.02	0.02	0.00	56.59	56.59	0.00	0.00	56.70
Total	**2.32**	**15.30**	**16.49**	**0.05**	**0.40**	**0.72**	**1.14**	**0.18**	**0.72**	**0.90**	**0.00**	**2,870.82**	**2,870.82**	**0.19**	**0.00**	**2,874.77**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.24	0.18	0.00		0.01	0.01		0.01	0.01	0.00	34.06	34.06	0.00	0.00	34.11
Total	**0.03**	**0.24**	**0.18**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.11**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.62	0.00	0.00	0.62
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.62**	**0.62**	**0.00**	**0.00**	**0.62**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.24	0.18	0.00		0.01	0.01		0.01	0.01	0.00	34.06	34.06	0.00	0.00	34.11
Total	**0.03**	**0.24**	**0.18**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.11**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.62	0.62	0.00	0.00	0.62
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.62**	**0.62**	**0.00**	**0.00**	**0.62**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.36	0.00	0.36	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.15	1.12	0.71	0.00		0.05	0.05		0.05	0.05	0.00	145.07	145.07	0.01	0.00	145.32
Total	**0.15**	**1.12**	**0.71**	**0.00**	**0.36**	**0.05**	**0.41**	**0.20**	**0.05**	**0.25**	**0.00**	**145.07**	**145.07**	**0.01**	**0.00**	**145.32**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.99	2.99	0.00	0.00	2.99
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.99**	**2.99**	**0.00**	**0.00**	**2.99**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.16	0.00	0.16	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.15	1.12	0.71	0.00		0.05	0.05		0.05	0.05	0.00	145.07	145.07	0.01	0.00	145.32
Total	**0.15**	**1.12**	**0.71**	**0.00**	**0.16**	**0.05**	**0.21**	**0.09**	**0.05**	**0.14**	**0.00**	**145.07**	**145.07**	**0.01**	**0.00**	**145.32**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.99	2.99	0.00	0.00	2.99
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.99**	**2.99**	**0.00**	**0.00**	**2.99**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.48	0.00	0.48	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.48	3.51	2.46	0.01		0.15	0.15		0.15	0.15	0.00	541.55	541.55	0.04	0.00	542.37
Total	**0.48**	**3.51**	**2.46**	**0.01**	**0.48**	**0.15**	**0.63**	**0.20**	**0.15**	**0.35**	**0.00**	**541.55**	**541.55**	**0.04**	**0.00**	**542.37**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	9.14	9.14	0.00	0.00	9.15
Total	**0.00**	**0.00**	**0.05**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**9.14**	**9.14**	**0.00**	**0.00**	**9.15**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Fugitive Dust					0.21	0.00	0.21	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.48	3.51	2.46	0.01		0.15	0.15		0.15	0.15	0.00	541.55	541.55	0.04	0.00	542.37
Total	**0.48**	**3.51**	**2.46**	**0.01**	**0.21**	**0.15**	**0.36**	**0.09**	**0.15**	**0.24**	**0.00**	**541.55**	**541.55**	**0.04**	**0.00**	**542.37**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.05	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	9.14	9.14	0.00	0.00	9.15
Total	**0.00**	**0.00**	**0.05**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**9.14**	**9.14**	**0.00**	**0.00**	**9.15**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.17	1.09	1.12	0.00		0.06	0.06		0.06	0.06	0.00	183.23	183.23	0.01	0.00	183.51
Total	**0.17**	**1.09**	**1.12**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**183.23**	**183.23**	**0.01**	**0.00**	**183.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.17	1.09	1.12	0.00		0.06	0.06		0.06	0.06	0.00	183.23	183.23	0.01	0.00	183.51
Total	**0.17**	**1.09**	**1.12**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**183.23**	**183.23**	**0.01**	**0.00**	**183.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.40	2.57	2.92	0.01		0.13	0.13		0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
Total	**0.40**	**2.57**	**2.92**	**0.01**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.91**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.40	2.57	2.92	0.01		0.13	0.13		0.13	0.13	0.00	478.23	478.23	0.03	0.00	478.91
Total	**0.40**	**2.57**	**2.92**	**0.01**		**0.13**	**0.13**		**0.13**	**0.13**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.91**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.37	2.34	2.91	0.01		0.11	0.11		0.11	0.11	0.00	480.06	480.06	0.03	0.00	480.68
Total	**0.37**	**2.34**	**2.91**	**0.01**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**480.06**	**480.06**	**0.03**	**0.00**	**480.68**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.37	2.34	2.91	0.01		0.11	0.11		0.11	0.11	0.00	480.06	480.06	0.03	0.00	480.68
Total	**0.37**	**2.34**	**2.91**	**0.01**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**480.06**	**480.06**	**0.03**	**0.00**	**480.68**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.33	2.10	2.88	0.01		0.10	0.10		0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
Total	**0.33**	**2.10**	**2.88**	**0.01**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.79**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.33	2.10	2.88	0.01		0.10	0.10		0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
Total	**0.33**	**2.10**	**2.88**	**0.01**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.79**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.27	1.65	2.49	0.00		0.07	0.07		0.07	0.07	0.00	414.10	414.10	0.02	0.00	414.55
Total	**0.27**	**1.65**	**2.49**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**414.10**	**414.10**	**0.02**	**0.00**	**414.55**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.27	1.65	2.49	0.00		0.07	0.07		0.07	0.07	0.00	414.10	414.10	0.02	0.00	414.55
Total	**0.27**	**1.65**	**2.49**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**414.10**	**414.10**	**0.02**	**0.00**	**414.55**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.33	0.00		0.02	0.02		0.02	0.02	0.00	44.98	44.98	0.00	0.00	45.07
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.33**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**44.98**	**44.98**	**0.00**	**0.00**	**45.07**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98	1.98	0.00	0.00	1.98
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.98**	**1.98**	**0.00**	**0.00**	**1.98**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.05	0.32	0.33	0.00		0.02	0.02		0.02	0.02	0.00	44.98	44.98	0.00	0.00	45.07
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.05**	**0.32**	**0.33**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**44.98**	**44.98**	**0.00**	**0.00**	**45.07**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.98	1.98	0.00	0.00	1.98
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.98**	**1.98**	**0.00**	**0.00**	**1.98**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.06	0.36	0.40	0.00		0.02	0.02		0.02	0.02	0.00	54.25	54.25	0.00	0.00	54.34
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.06**	**0.36**	**0.40**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**54.25**	**54.25**	**0.00**	**0.00**	**54.34**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.35	2.35	0.00	0.00	2.35
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.35**	**2.35**	**0.00**	**0.00**	**2.35**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.06	0.36	0.40	0.00		0.02	0.02		0.02	0.02	0.00	54.25	54.25	0.00	0.00	54.34
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.06**	**0.36**	**0.40**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**54.25**	**54.25**	**0.00**	**0.00**	**54.34**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.35	2.35	0.00	0.00	2.35
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.35**	**2.35**	**0.00**	**0.00**	**2.35**

Grand Park Specific Plan - Phase 3 (1/2 City Park)

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
City Park	65	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Minimal demolition of existing structures

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	8.87	63.82	45.65	0.10	18.30	2.77	20.77	9.93	2.77	12.40	0.00	11,051.24	0.00	0.79	0.00	11,067.91
2019	3.05	19.73	22.36	0.04	0.00	1.03	1.03	0.00	1.03	1.03	0.00	4,040.62	0.00	0.27	0.00	4,046.36
2020	2.80	17.88	22.24	0.04	0.00	0.88	0.88	0.00	0.88	0.88	0.00	4,040.62	0.00	0.25	0.00	4,045.85
2021	2.56	16.08	22.10	0.04	0.00	0.74	0.74	0.00	0.74	0.74	0.00	4,040.61	0.00	0.23	0.00	4,045.38
2022	3.09	18.97	22.04	0.04	0.20	1.35	1.54	0.00	1.35	1.35	0.00	4,040.61	0.00	0.28	0.00	4,046.47
2023	2.89	17.75	20.05	0.03	0.20	1.21	1.40	0.00	1.21	1.21	0.00	3,051.95	0.00	0.26	0.00	3,057.40
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	8.87	63.82	45.65	0.10	8.36	2.77	10.83	4.47	2.77	6.94	0.00	11,051.24	0.00	0.79	0.00	11,067.91
2019	3.05	19.73	22.36	0.04	0.00	1.03	1.03	0.00	1.03	1.03	0.00	4,040.62	0.00	0.27	0.00	4,046.36
2020	2.80	17.88	22.24	0.04	0.00	0.88	0.88	0.00	0.88	0.88	0.00	4,040.62	0.00	0.25	0.00	4,045.85
2021	2.56	16.08	22.10	0.04	0.00	0.74	0.74	0.00	0.74	0.74	0.00	4,040.61	0.00	0.23	0.00	4,045.38
2022	3.09	18.97	22.04	0.04	0.20	1.35	1.54	0.00	1.35	1.35	0.00	4,040.61	0.00	0.28	0.00	4,046.47
2023	2.89	17.75	20.05	0.03	0.20	1.21	1.40	0.00	1.21	1.21	0.00	3,051.95	0.00	0.26	0.00	3,057.40
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	6.53	47.15	36.13	0.07		2.15	2.15		2.15	2.15		7,510.82		0.58		7,522.96
Total	**6.53**	**47.15**	**36.13**	**0.07**	**0.00**	**2.15**	**2.15**	**0.00**	**2.15**	**2.15**		**7,510.82**		**0.58**		**7,522.96**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.65	0.00	0.20	0.01	0.20	0.00	0.01	0.01		145.93		0.01		146.08
Total	**0.06**	**0.05**	**0.65**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**145.93**		**0.01**		**146.08**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	6.53	47.15	36.13	0.07		2.15	2.15		2.15	2.15	0.00	7,510.82		0.58		7,522.96
Total	**6.53**	**47.15**	**36.13**	**0.07**	**0.00**	**2.15**	**2.15**	**0.00**	**2.15**	**2.15**	**0.00**	**7,510.82**		**0.58**		**7,522.96**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.65	0.00	0.20	0.01	0.20	0.00	0.01	0.01		145.93		0.01		146.08
Total	**0.06**	**0.05**	**0.65**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**145.93**		**0.01**		**146.08**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	7.44	56.03	35.70	0.07		2.46	2.46		2.46	2.46		7,997.69		0.66		8,011.57
Total	**7.44**	**56.03**	**35.70**	**0.07**	**18.07**	**2.46**	**20.53**	**9.93**	**2.46**	**12.39**		**7,997.69**		**0.66**		**8,011.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.78	0.00	0.23	0.01	0.24	0.00	0.01	0.01		175.12		0.01		175.29
Total	**0.07**	**0.06**	**0.78**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**175.12**		**0.01**		**175.29**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	7.44	56.03	35.70	0.07		2.46	2.46		2.46	2.46	0.00	7,997.69		0.66		8,011.57
Total	**7.44**	**56.03**	**35.70**	**0.07**	**8.13**	**2.46**	**10.59**	**4.47**	**2.46**	**6.93**	**0.00**	**7,997.69**		**0.66**		**8,011.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Worker	0.07	0.06	0.78	0.00	0.23	0.01	0.24	0.00	0.01	0.01		175.12		0.01		175.29
Total	**0.07**	**0.06**	**0.78**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**175.12**		**0.01**		**175.29**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	8.79	63.75	44.78	0.10		2.76	2.76		2.76	2.76		10,856.66		0.79		10,873.14
Total	**8.79**	**63.75**	**44.78**	**0.10**	**8.67**	**2.76**	**11.43**	**3.31**	**2.76**	**6.07**		**10,856.66**		**0.79**		**10,873.14**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.87	0.00	0.26	0.01	0.27	0.00	0.01	0.01		194.58		0.01		194.77
Total	**0.08**	**0.07**	**0.87**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**194.58**		**0.01**		**194.77**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	8.79	63.75	44.78	0.10		2.76	2.76		2.76	2.76	0.00	10,856.66		0.79		10,873.14
Total	**8.79**	**63.75**	**44.78**	**0.10**	**3.90**	**2.76**	**6.66**	**1.49**	**2.76**	**4.25**	**0.00**	**10,856.66**		**0.79**		**10,873.14**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.87	0.00	0.26	0.01	0.27	0.00	0.01	0.01		194.58		0.01		194.77
Total	**0.08**	**0.07**	**0.87**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**194.58**		**0.01**		**194.77**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20		4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**		**4,040.62**		**0.30**		**4,046.87**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20	0.00	4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**	**0.00**	**4,040.62**		**0.30**		**4,046.87**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03		4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**		**4,040.62**		**0.27**		**4,046.36**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03	0.00	4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**	**0.00**	**4,040.62**		**0.27**		**4,046.36**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88		4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**		**4,040.62**		**0.25**		**4,045.85**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88	0.00	4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**	**0.00**	**4,040.62**		**0.25**		**4,045.85**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74		4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**		**4,040.61**		**0.23**		**4,045.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74	0.00	4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**	**0.00**	**4,040.61**		**0.23**		**4,045.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62		4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**		**4,040.61**		**0.21**		**4,045.05**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62	0.00	4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**	**0.00**	**4,040.61**		**0.21**		**4,045.05**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.04	18.93	19.66	0.03		1.34	1.34		1.34	1.34		2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.04**	**18.93**	**19.66**	**0.03**		**1.34**	**1.34**		**1.34**	**1.34**		**2,917.64**		**0.27**		**2,923.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Worker	0.05	0.04	0.50	0.00	0.20	0.01	0.20	0.00	0.01	0.01		136.44		0.01		136.55
Total	**0.05**	**0.04**	**0.50**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**136.44**		**0.01**		**136.55**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.04	18.93	19.66	0.03		1.34	1.34		1.34	1.34	0.00	2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.04**	**18.93**	**19.66**	**0.03**		**1.34**	**1.34**		**1.34**	**1.34**	**0.00**	**2,917.64**		**0.27**		**2,923.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.50	0.00	0.20	0.01	0.20	0.00	0.01	0.01		136.44		0.01		136.55
Total	**0.05**	**0.04**	**0.50**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**136.44**		**0.01**		**136.55**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	2.84	17.71	19.58	0.03		1.20	1.20		1.20	1.20		2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.84**	**17.71**	**19.58**	**0.03**		**1.20**	**1.20**		**1.20**	**1.20**		**2,917.64**		**0.25**		**2,922.99**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.47	0.00	0.20	0.01	0.20	0.00	0.01	0.01		134.31		0.01		134.42
Total	**0.05**	**0.04**	**0.47**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**134.31**		**0.01**		**134.42**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.84	17.71	19.58	0.03		1.20	1.20		1.20	1.20	0.00	2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.84**	**17.71**	**19.58**	**0.03**		**1.20**	**1.20**		**1.20**	**1.20**	**0.00**	**2,917.64**		**0.25**		**2,922.99**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.47	0.00	0.20	0.01	0.20	0.00	0.01	0.01		134.31		0.01		134.42
Total	**0.05**	**0.04**	**0.47**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**134.31**		**0.01**		**134.42**

Grand Park Specific Plan - Phase 3 (1/2 City Park)

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
City Park	65	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Minimal demolition of existing structures

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	8.88	63.83	45.58	0.10	18.30	2.77	20.77	9.93	2.77	12.40	0.00	11,034.78	0.00	0.79	0.00	11,051.44
2019	3.05	19.73	22.36	0.04	0.00	1.03	1.03	0.00	1.03	1.03	0.00	4,040.62	0.00	0.27	0.00	4,046.36
2020	2.80	17.88	22.24	0.04	0.00	0.88	0.88	0.00	0.88	0.88	0.00	4,040.62	0.00	0.25	0.00	4,045.85
2021	2.56	16.08	22.10	0.04	0.00	0.74	0.74	0.00	0.74	0.74	0.00	4,040.61	0.00	0.23	0.00	4,045.38
2022	3.10	18.97	22.04	0.04	0.20	1.35	1.54	0.00	1.35	1.35	0.00	4,040.61	0.00	0.28	0.00	4,046.46
2023	2.89	17.75	20.01	0.03	0.20	1.21	1.40	0.00	1.21	1.21	0.00	3,040.45	0.00	0.26	0.00	3,045.89
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2018	8.88	63.83	45.58	0.10	8.36	2.77	10.83	4.47	2.77	6.94	0.00	11,034.78	0.00	0.79	0.00	11,051.44
2019	3.05	19.73	22.36	0.04	0.00	1.03	1.03	0.00	1.03	1.03	0.00	4,040.62	0.00	0.27	0.00	4,046.36
2020	2.80	17.88	22.24	0.04	0.00	0.88	0.88	0.00	0.88	0.88	0.00	4,040.62	0.00	0.25	0.00	4,045.85
2021	2.56	16.08	22.10	0.04	0.00	0.74	0.74	0.00	0.74	0.74	0.00	4,040.61	0.00	0.23	0.00	4,045.38
2022	3.10	18.97	22.04	0.04	0.20	1.35	1.54	0.00	1.35	1.35	0.00	4,040.61	0.00	0.28	0.00	4,046.46
2023	2.89	17.75	20.01	0.03	0.20	1.21	1.40	0.00	1.21	1.21	0.00	3,040.45	0.00	0.26	0.00	3,045.89
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	6.53	47.15	36.13	0.07		2.15	2.15		2.15	2.15		7,510.82		0.58		7,522.96
Total	**6.53**	**47.15**	**36.13**	**0.07**	**0.00**	**2.15**	**2.15**	**0.00**	**2.15**	**2.15**		**7,510.82**		**0.58**		**7,522.96**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.06	0.60	0.00	0.20	0.01	0.20	0.00	0.01	0.01		133.59		0.01		133.73
Total	**0.06**	**0.06**	**0.60**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**133.59**		**0.01**		**133.73**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00						0.00
Off-Road	6.53	47.15	36.13	0.07		2.15	2.15		2.15	2.15	0.00	7,510.82		0.58		7,522.96
Total	**6.53**	**47.15**	**36.13**	**0.07**	**0.00**	**2.15**	**2.15**	**0.00**	**2.15**	**2.15**	**0.00**	**7,510.82**		**0.58**		**7,522.96**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.06	0.60	0.00	0.20	0.01	0.20	0.00	0.01	0.01		133.59		0.01		133.73
Total	**0.06**	**0.06**	**0.60**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**133.59**		**0.01**		**133.73**

3.3 Site Preparation - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	7.44	56.03	35.70	0.07		2.46	2.46		2.46	2.46		7,997.69		0.66		8,011.57
Total	**7.44**	**56.03**	**35.70**	**0.07**	**18.07**	**2.46**	**20.53**	**9.93**	**2.46**	**12.39**		**7,997.69**		**0.66**		**8,011.57**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.72	0.00	0.23	0.01	0.24	0.00	0.01	0.01		160.31		0.01		160.47
Total	**0.08**	**0.07**	**0.72**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**160.31**		**0.01**		**160.47**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	7.44	56.03	35.70	0.07		2.46	2.46		2.46	2.46	0.00	7,997.69		0.66		8,011.57
Total	**7.44**	**56.03**	**35.70**	**0.07**	**8.13**	**2.46**	**10.59**	**4.47**	**2.46**	**6.93**	**0.00**	**7,997.69**		**0.66**		**8,011.57**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Worker	0.08	0.07	0.72	0.00	0.23	0.01	0.24	0.00	0.01	0.01		160.31		0.01		160.47
Total	**0.08**	**0.07**	**0.72**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**160.31**		**0.01**		**160.47**

3.4 Grading - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	8.79	63.75	44.78	0.10		2.76	2.76		2.76	2.76		10,856.66		0.79		10,873.14
Total	**8.79**	**63.75**	**44.78**	**0.10**	**8.67**	**2.76**	**11.43**	**3.31**	**2.76**	**6.07**		**10,856.66**		**0.79**		**10,873.14**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.08	0.80	0.00	0.26	0.01	0.27	0.00	0.01	0.01		178.12		0.01		178.30
Total	**0.08**	**0.08**	**0.80**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**178.12**		**0.01**		**178.30**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	8.79	63.75	44.78	0.10		2.76	2.76		2.76	2.76	0.00	10,856.66		0.79		10,873.14
Total	**8.79**	**63.75**	**44.78**	**0.10**	**3.90**	**2.76**	**6.66**	**1.49**	**2.76**	**4.25**	**0.00**	**10,856.66**		**0.79**		**10,873.14**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.08	0.80	0.00	0.26	0.01	0.27	0.00	0.01	0.01		178.12		0.01		178.30
Total	**0.08**	**0.08**	**0.80**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**178.12**		**0.01**		**178.30**

3.5 Building Construction - 2018

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20		4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**		**4,040.62**		**0.30**		**4,046.87**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.34	21.78	22.50	0.04		1.20	1.20		1.20	1.20	0.00	4,040.62		0.30		4,046.87
Total	**3.34**	**21.78**	**22.50**	**0.04**		**1.20**	**1.20**		**1.20**	**1.20**	**0.00**	**4,040.62**		**0.30**		**4,046.87**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2019

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03		4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**		**4,040.62**		**0.27**		**4,046.36**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.05	19.73	22.36	0.04		1.03	1.03		1.03	1.03	0.00	4,040.62		0.27		4,046.36
Total	**3.05**	**19.73**	**22.36**	**0.04**		**1.03**	**1.03**		**1.03**	**1.03**	**0.00**	**4,040.62**		**0.27**		**4,046.36**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88		4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**		**4,040.62**		**0.25**		**4,045.85**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88	0.00	4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**	**0.00**	**4,040.62**		**0.25**		**4,045.85**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74		4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**		**4,040.61**		**0.23**		**4,045.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74	0.00	4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**	**0.00**	**4,040.61**		**0.23**		**4,045.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62		4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**		**4,040.61**		**0.21**		**4,045.05**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62	0.00	4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**	**0.00**	**4,040.61**		**0.21**		**4,045.05**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.6 Paving - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.04	18.93	19.66	0.03		1.34	1.34		1.34	1.34		2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.04**	**18.93**	**19.66**	**0.03**		**1.34**	**1.34**		**1.34**	**1.34**		**2,917.64**		**0.27**		**2,923.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Worker	0.05	0.04	0.46	0.00	0.20	0.01	0.20	0.00	0.01	0.01		124.78		0.01		124.89
Total	**0.05**	**0.04**	**0.46**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**124.78**		**0.01**		**124.89**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	3.04	18.93	19.66	0.03		1.34	1.34		1.34	1.34	0.00	2,917.64		0.27		2,923.38
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**3.04**	**18.93**	**19.66**	**0.03**		**1.34**	**1.34**		**1.34**	**1.34**	**0.00**	**2,917.64**		**0.27**		**2,923.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.46	0.00	0.20	0.01	0.20	0.00	0.01	0.01		124.78		0.01		124.89
Total	**0.05**	**0.04**	**0.46**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**124.78**		**0.01**		**124.89**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	2.84	17.71	19.58	0.03		1.20	1.20		1.20	1.20		2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.84**	**17.71**	**19.58**	**0.03**		**1.20**	**1.20**		**1.20**	**1.20**		**2,917.64**		**0.25**		**2,922.99**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.43	0.00	0.20	0.01	0.20	0.00	0.01	0.01		122.80		0.00		122.91
Total	**0.05**	**0.04**	**0.43**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**122.80**		**0.00**		**122.91**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.84	17.71	19.58	0.03		1.20	1.20		1.20	1.20	0.00	2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.84**	**17.71**	**19.58**	**0.03**		**1.20**	**1.20**		**1.20**	**1.20**	**0.00**	**2,917.64**		**0.25**		**2,922.99**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day											lb/day				
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.43	0.00	0.20	0.01	0.20	0.00	0.01	0.01		122.80		0.00		122.91
Total	**0.05**	**0.04**	**0.43**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**122.80**		**0.00**		**122.91**

Grand Park Specific Plan - Phase 4 (PA 1,2,3,ES)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Elementary School	850	Student
Condo/Townhouse	378	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Acreage based on Project Description. Population rate: 3.97 population/acre as per The Ontario Plan

Construction Phase - Marginal demolition assumed

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.74	4.64	4.97	0.01	0.90	0.21	1.11	0.29	0.21	0.50	0.00	1,059.05	1,059.05	0.06	0.00	1,060.31
2021	0.52	2.82	4.63	0.01	0.52	0.13	0.65	0.01	0.13	0.14	0.00	958.72	958.72	0.04	0.00	959.61
2022	0.49	2.58	4.50	0.01	0.52	0.12	0.63	0.01	0.11	0.12	0.00	950.12	950.12	0.04	0.00	950.95
2023	2.52	1.19	1.89	0.00	0.17	0.06	0.23	0.00	0.06	0.07	0.00	361.00	361.00	0.02	0.00	361.38
Total	**4.27**	**11.23**	**15.99**	**0.03**	**2.11**	**0.52**	**2.62**	**0.31**	**0.51**	**0.83**	**0.00**	**3,328.89**	**3,328.89**	**0.16**	**0.00**	**3,332.25**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2020	0.35	0.96	5.50	0.01	0.57	0.04	0.62	0.13	0.04	0.18	0.00	1,059.05	1,059.05	0.06	0.00	1,060.31
2021	0.35	1.13	4.93	0.01	0.52	0.05	0.57	0.01	0.05	0.06	0.00	958.72	958.72	0.04	0.00	959.61
2022	0.34	1.09	4.81	0.01	0.52	0.05	0.57	0.01	0.05	0.06	0.00	950.12	950.12	0.04	0.00	950.95
2023	2.43	0.35	1.96	0.00	0.17	0.02	0.19	0.00	0.02	0.02	0.00	361.00	361.00	0.02	0.00	361.38
Total	**3.47**	**3.53**	**17.20**	**0.03**	**1.78**	**0.16**	**1.95**	**0.15**	**0.16**	**0.32**	**0.00**	**3,328.89**	**3,328.89**	**0.16**	**0.00**	**3,332.25**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.03	0.20	0.17	0.00		0.01	0.01		0.01	0.01	0.00	34.06	34.06	0.00	0.00	34.11
Total	**0.03**	**0.20**	**0.17**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.11**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.60
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.60**	**0.60**	**0.00**	**0.00**	**0.60**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Off-Road	0.01	0.02	0.19	0.00		0.00	0.00		0.00	0.00	0.00	34.06	34.06	0.00	0.00	34.11
Total	**0.01**	**0.02**	**0.19**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.11**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.60	0.60	0.00	0.00	0.60
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.60**	**0.60**	**0.00**	**0.00**	**0.60**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.27	0.00	0.27	0.15	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.72	0.50	0.00		0.03	0.03		0.03	0.03	0.00	108.80	108.80	0.01	0.00	108.97
Total	**0.10**	**0.72**	**0.50**	**0.00**	**0.27**	**0.03**	**0.30**	**0.15**	**0.03**	**0.18**	**0.00**	**108.80**	**108.80**	**0.01**	**0.00**	**108.97**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.16	2.16	0.00	0.00	2.16
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.16**	**2.16**	**0.00**	**0.00**	**2.16**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.12	0.00	0.12	0.07	0.00	0.07	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.06	0.53	0.00		0.00	0.00		0.00	0.00	0.00	108.80	108.80	0.01	0.00	108.97
Total	**0.03**	**0.06**	**0.53**	**0.00**	**0.12**	**0.00**	**0.12**	**0.07**	**0.00**	**0.07**	**0.00**	**108.80**	**108.80**	**0.01**	**0.00**	**108.97**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.16	2.16	0.00	0.00	2.16
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.16**	**2.16**	**0.00**	**0.00**	**2.16**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.33	0.00	0.33	0.13	0.00	0.13	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.29	1.99	1.60	0.00		0.08	0.08		0.08	0.08	0.00	369.24	369.24	0.02	0.00	369.73
Total	**0.29**	**1.99**	**1.60**	**0.00**	**0.33**	**0.08**	**0.41**	**0.13**	**0.08**	**0.21**	**0.00**	**369.24**	**369.24**	**0.02**	**0.00**	**369.73**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.99	5.99	0.00	0.00	6.00
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.99**	**5.99**	**0.00**	**0.00**	**6.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.15	0.00	0.15	0.06	0.00	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.10	0.21	1.93	0.00		0.01	0.01		0.01	0.01	0.00	369.24	369.24	0.02	0.00	369.73
Total	**0.10**	**0.21**	**1.93**	**0.00**	**0.15**	**0.01**	**0.16**	**0.06**	**0.01**	**0.07**	**0.00**	**369.24**	**369.24**	**0.02**	**0.00**	**369.73**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	5.99	5.99	0.00	0.00	6.00
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**5.99**	**5.99**	**0.00**	**0.00**	**6.00**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.20	1.31	1.62	0.00		0.06	0.06		0.06	0.06	0.00	267.51	267.51	0.02	0.00	267.86
Total	**0.20**	**1.31**	**1.62**	**0.00**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**267.51**	**267.51**	**0.02**	**0.00**	**267.86**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.03	0.36	0.25	0.00	0.03	0.01	0.04	0.00	0.01	0.01	0.00	94.55	94.55	0.00	0.00	94.58

Worker	0.08	0.07	0.79	0.00	0.26	0.01	0.27	0.00	0.01	0.01	0.00	176.14	176.14	0.01	0.00	176.30
Total	**0.11**	**0.43**	**1.04**	**0.00**	**0.29**	**0.02**	**0.31**	**0.00**	**0.02**	**0.02**	**0.00**	**270.69**	**270.69**	**0.01**	**0.00**	**270.88**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.23	1.78	0.00		0.01	0.01		0.01	0.01	0.00	267.51	267.51	0.02	0.00	267.86
Total	**0.09**	**0.23**	**1.78**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**267.51**	**267.51**	**0.02**	**0.00**	**267.86**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.03	0.36	0.25	0.00	0.03	0.01	0.04	0.00	0.01	0.01	0.00	94.55	94.55	0.00	0.00	94.58
Worker	0.08	0.07	0.79	0.00	0.26	0.01	0.27	0.00	0.01	0.01	0.00	176.14	176.14	0.01	0.00	176.30
Total	**0.11**	**0.43**	**1.04**	**0.00**	**0.29**	**0.02**	**0.31**	**0.00**	**0.02**	**0.02**	**0.00**	**270.69**	**270.69**	**0.01**	**0.00**	**270.88**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Off-Road	0.33	2.10	2.88	0.01		0.10	0.10		0.10	0.10	0.00	478.23	478.23	0.03	0.00	478.79
Total	**0.33**	**2.10**	**2.88**	**0.01**		**0.10**	**0.10**		**0.10**	**0.10**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.79**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.61	0.42	0.00	0.06	0.02	0.07	0.00	0.02	0.02	0.00	169.49	169.49	0.00	0.00	169.54
Worker	0.13	0.11	1.33	0.00	0.46	0.02	0.48	0.01	0.02	0.02	0.00	311.00	311.00	0.01	0.00	311.27
Total	**0.19**	**0.72**	**1.75**	**0.00**	**0.52**	**0.04**	**0.55**	**0.01**	**0.04**	**0.04**	**0.00**	**480.49**	**480.49**	**0.01**	**0.00**	**480.81**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.16	0.41	3.18	0.01		0.01	0.01		0.01	0.01	0.00	478.23	478.23	0.03	0.00	478.79
Total	**0.16**	**0.41**	**3.18**	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**478.23**	**478.23**	**0.03**	**0.00**	**478.79**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.06	0.61	0.42	0.00	0.06	0.02	0.07	0.00	0.02	0.02	0.00	169.49	169.49	0.00	0.00	169.54
Worker	0.13	0.11	1.33	0.00	0.46	0.02	0.48	0.01	0.02	0.02	0.00	311.00	311.00	0.01	0.00	311.27
Total	**0.19**	**0.72**	**1.75**	**0.00**	**0.52**	**0.04**	**0.55**	**0.01**	**0.04**	**0.04**	**0.00**	**480.49**	**480.49**	**0.01**	**0.00**	**480.81**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.31	1.89	2.86	0.01		0.08	0.08		0.08	0.08	0.00	476.40	476.40	0.02	0.00	476.92
Total	**0.31**	**1.89**	**2.86**	**0.01**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.92**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.05	0.58	0.39	0.00	0.06	0.02	0.07	0.00	0.02	0.02	0.00	169.06	169.06	0.00	0.00	169.11
Worker	0.13	0.11	1.24	0.00	0.46	0.02	0.48	0.01	0.02	0.02	0.00	304.66	304.66	0.01	0.00	304.92
Total	**0.18**	**0.69**	**1.63**	**0.00**	**0.52**	**0.04**	**0.55**	**0.01**	**0.04**	**0.04**	**0.00**	**473.72**	**473.72**	**0.01**	**0.00**	**474.03**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.16	0.41	3.17	0.01		0.01	0.01		0.01	0.01	0.00	476.40	476.40	0.02	0.00	476.92
Total	**0.16**	**0.41**	**3.17**	**0.01**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.92**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.05	0.58	0.39	0.00	0.06	0.02	0.07	0.00	0.02	0.02	0.00	169.06	169.06	0.00	0.00	169.11
Worker	0.13	0.11	1.24	0.00	0.46	0.02	0.48	0.01	0.02	0.02	0.00	304.66	304.66	0.01	0.00	304.92
Total	**0.18**	**0.69**	**1.63**	**0.00**	**0.52**	**0.04**	**0.55**	**0.01**	**0.04**	**0.04**	**0.00**	**473.72**	**473.72**	**0.01**	**0.00**	**474.03**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.08	0.48	0.80	0.00		0.02	0.02		0.02	0.02	0.00	133.76	133.76	0.01	0.00	133.90
Total	**0.08**	**0.48**	**0.80**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**133.76**	**133.76**	**0.01**	**0.00**	**133.90**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.15	0.11	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	47.52	47.52	0.00	0.00	47.53
Worker	0.03	0.03	0.33	0.00	0.13	0.01	0.14	0.00	0.00	0.01	0.00	84.19	84.19	0.00	0.00	84.26
Total	**0.04**	**0.18**	**0.44**	**0.00**	**0.15**	**0.01**	**0.16**	**0.00**	**0.00**	**0.01**	**0.00**	**131.71**	**131.71**	**0.00**	**0.00**	**131.79**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.04	0.11	0.89	0.00		0.00	0.00		0.00	0.00	0.00	133.76	133.76	0.01	0.00	133.90
Total	**0.04**	**0.11**	**0.89**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**133.76**	**133.76**	**0.01**	**0.00**	**133.90**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.01	0.15	0.11	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	47.52	47.52	0.00	0.00	47.53
Worker	0.03	0.03	0.33	0.00	0.13	0.01	0.14	0.00	0.00	0.01	0.00	84.19	84.19	0.00	0.00	84.26
Total	**0.04**	**0.18**	**0.44**	**0.00**	**0.15**	**0.01**	**0.16**	**0.00**	**0.00**	**0.01**	**0.00**	**131.71**	**131.71**	**0.00**	**0.00**	**131.79**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.08	0.49	0.54	0.00		0.03	0.03		0.03	0.03	0.00	72.77	72.77	0.01	0.00	72.90
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.08**	**0.49**	**0.54**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**72.77**	**72.77**	**0.01**	**0.00**	**72.90**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	3.15	3.15	0.00	0.00	3.15
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.15**	**3.15**	**0.00**	**0.00**	**3.15**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.02	0.04	0.52	0.00		0.00	0.00		0.00	0.00	0.00	72.77	72.77	0.01	0.00	72.90
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.02**	**0.04**	**0.52**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**72.77**	**72.77**	**0.01**	**0.00**	**72.90**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.01	0.00	0.00	0.00	0.00	3.15	3.15	0.00	0.00	3.15
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**3.15**	**3.15**	**0.00**	**0.00**	**3.15**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.30					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.04	0.05	0.00		0.00	0.00		0.00	0.00	0.00	7.01	7.01	0.00	0.00	7.02
Total	**2.31**	**0.04**	**0.05**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**7.01**	**7.01**	**0.00**	**0.00**	**7.02**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Worker	0.01	0.00	0.05	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	12.60	12.60	0.00	0.00	12.61
Total	**0.01**	**0.00**	**0.05**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**12.60**	**12.60**	**0.00**	**0.00**	**12.61**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	2.30					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.00	0.05	0.00		0.00	0.00		0.00	0.00	0.00	7.01	7.01	0.00	0.00	7.02
Total	**2.30**	**0.00**	**0.05**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**7.01**	**7.01**	**0.00**	**0.00**	**7.02**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.01	0.00	0.05	0.00	0.02	0.00	0.02	0.00	0.00	0.00	0.00	12.60	12.60	0.00	0.00	12.61
Total	**0.01**	**0.00**	**0.05**	**0.00**	**0.02**	**0.00**	**0.02**	**0.00**	**0.00**	**0.00**	**0.00**	**12.60**	**12.60**	**0.00**	**0.00**	**12.61**

Grand Park Specific Plan - Phase 4 (PA 1,2,3,ES)

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Elementary School	850	Student
Condo/Townhouse	378	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Acreage based on Project Description. Population rate: 3.97 population/acre as per The Ontario Plan

Construction Phase - Marginal demolition assumed

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	7.87	53.06	43.50	0.10	18.30	2.23	20.33	9.93	2.23	11.96	0.00	11,043.89	0.00	0.71	0.00	11,058.71
2021	4.02	21.61	35.72	0.09	4.42	1.02	5.44	0.07	1.00	1.06	0.00	8,270.38	0.00	0.36	0.00	8,277.98
2022	3.78	19.83	34.86	0.09	4.42	0.90	5.32	0.07	0.87	0.94	0.00	8,226.40	0.00	0.34	0.00	8,233.53
2023	84.01	18.25	34.09	0.09	4.42	1.21	5.21	0.07	1.21	1.21	0.00	8,185.29	0.00	0.32	0.00	8,192.03
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.79	8.97	52.31	0.10	8.36	0.40	8.58	4.47	0.38	4.69	0.00	11,043.89	0.00	0.71	0.00	11,058.71
2021	2.68	8.65	38.00	0.09	4.42	0.39	4.81	0.07	0.37	0.44	0.00	8,270.38	0.00	0.36	0.00	8,277.98
2022	2.62	8.38	37.21	0.09	4.42	0.38	4.80	0.07	0.36	0.43	0.00	8,226.40	0.00	0.34	0.00	8,233.53
2023	83.90	8.14	36.49	0.09	4.42	0.37	4.80	0.07	0.35	0.42	0.00	8,185.29	0.00	0.32	0.00	8,192.03
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.75	39.50	34.40	0.07		1.73	1.73		1.73	1.73		7,510.81		0.52		7,521.66
Total	**5.75**	**39.50**	**34.40**	**0.07**		**1.73**	**1.73**		**1.73**	**1.73**		**7,510.81**		**0.52**		**7,521.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.57	0.00	0.20	0.01	0.20	0.00	0.01	0.01		140.43		0.01		140.56
Total	**0.05**	**0.04**	**0.57**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**140.43**		**0.01**		**140.56**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Off-Road	1.88	3.96	37.73	0.07		0.20	0.20		0.20	0.20	0.00	7,510.81		0.52		7,521.66
Total	**1.88**	**3.96**	**37.73**	**0.07**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**7,510.81**		**0.52**		**7,521.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.57	0.00	0.20	0.01	0.20	0.00	0.01	0.01		140.43		0.01		140.56
Total	**0.05**	**0.04**	**0.57**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**140.43**		**0.01**		**140.56**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	6.65	48.28	33.08	0.07		2.02	2.02		2.02	2.02		7,997.69		0.60		8,010.20
Total	**6.65**	**48.28**	**33.08**	**0.07**	**18.07**	**2.02**	**20.09**	**9.93**	**2.02**	**11.95**		**7,997.69**		**0.60**		**8,010.20**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.05	0.68	0.00	0.23	0.01	0.24	0.00	0.01	0.01		168.52		0.01		168.67
Total	**0.07**	**0.05**	**0.68**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**168.52**		**0.01**		**168.67**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	2.06	4.22	35.32	0.07		0.21	0.21		0.21	0.21	0.00	7,997.69		0.60		8,010.20
Total	**2.06**	**4.22**	**35.32**	**0.07**	**8.13**	**0.21**	**8.34**	**4.47**	**0.21**	**4.68**	**0.00**	**7,997.69**		**0.60**		**8,010.20**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.05	0.68	0.00	0.23	0.01	0.24	0.00	0.01	0.01		168.52		0.01		168.67
Total	**0.07**	**0.05**	**0.68**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**168.52**		**0.01**		**168.67**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	7.79	53.00	42.75	0.10		2.22	2.22		2.22	2.22		10,856.65		0.70		10,871.30
Total	**7.79**	**53.00**	**42.75**	**0.10**	**8.67**	**2.22**	**10.89**	**3.31**	**2.22**	**5.53**		**10,856.65**		**0.70**		**10,871.30**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.76	0.00	0.26	0.01	0.27	0.00	0.01	0.01		187.24		0.01		187.41
Total	**0.07**	**0.06**	**0.76**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**187.24**		**0.01**		**187.41**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	2.72	5.73	51.55	0.10		0.29	0.29		0.29	0.29	0.00	10,856.65		0.70		10,871.30
Total	**2.72**	**5.73**	**51.55**	**0.10**	**3.90**	**0.29**	**4.19**	**1.49**	**0.29**	**1.78**	**0.00**	**10,856.65**		**0.70**		**10,871.30**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.76	0.00	0.26	0.01	0.27	0.00	0.01	0.01		187.24		0.01		187.41
Total	**0.07**	**0.06**	**0.76**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**187.24**		**0.01**		**187.41**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88		4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**		**4,040.62**		**0.25**		**4,045.85**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.44	4.95	3.00	0.01	0.48	0.15	0.63	0.01	0.14	0.15		1,432.90		0.02		1,433.34

Worker	1.09	0.91	11.41	0.03	3.94	0.14	4.08	0.05	0.13	0.19		2,827.33		0.12		2,829.86
Total	**1.53**	**5.86**	**14.41**	**0.04**	**4.42**	**0.29**	**4.71**	**0.06**	**0.27**	**0.34**		**4,260.23**		**0.14**		**4,263.20**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.22	3.12	24.38	0.04		0.11	0.11		0.11	0.11	0.00	4,040.62		0.25		4,045.85
Total	**1.22**	**3.12**	**24.38**	**0.04**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**4,040.62**		**0.25**		**4,045.85**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.44	4.95	3.00	0.01	0.48	0.15	0.63	0.01	0.14	0.15		1,432.90		0.02		1,433.34
Worker	1.09	0.91	11.41	0.03	3.94	0.14	4.08	0.05	0.13	0.19		2,827.33		0.12		2,829.86
Total	**1.53**	**5.86**	**14.41**	**0.04**	**4.42**	**0.29**	**4.71**	**0.06**	**0.27**	**0.34**		**4,260.23**		**0.14**		**4,263.20**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74		4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**		**4,040.61**		**0.23**		**4,045.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.41	4.69	2.83	0.01	0.48	0.14	0.62	0.01	0.13	0.14		1,436.93		0.02		1,437.35
Worker	1.05	0.84	10.79	0.03	3.94	0.14	4.09	0.05	0.13	0.19		2,792.84		0.11		2,795.25
Total	**1.46**	**5.53**	**13.62**	**0.04**	**4.42**	**0.28**	**4.71**	**0.06**	**0.26**	**0.33**		**4,229.77**		**0.13**		**4,232.60**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.22	3.12	24.38	0.04		0.11	0.11		0.11	0.11	0.00	4,040.61		0.23		4,045.38
Total	**1.22**	**3.12**	**24.38**	**0.04**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**4,040.61**		**0.23**		**4,045.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.41	4.69	2.83	0.01	0.48	0.14	0.62	0.01	0.13	0.14		1,436.93		0.02		1,437.35
Worker	1.05	0.84	10.79	0.03	3.94	0.14	4.09	0.05	0.13	0.19		2,792.84		0.11		2,795.25
Total	**1.46**	**5.53**	**13.62**	**0.04**	**4.42**	**0.28**	**4.71**	**0.06**	**0.26**	**0.33**		**4,229.77**		**0.13**		**4,232.60**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62		4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**		**4,040.61**		**0.21**		**4,045.05**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.39	4.48	2.68	0.01	0.48	0.13	0.61	0.01	0.12	0.13		1,438.85		0.02		1,439.25
Worker	1.01	0.78	10.14	0.03	3.94	0.15	4.09	0.05	0.13	0.19		2,746.93		0.11		2,749.23
Total	**1.40**	**5.26**	**12.82**	**0.04**	**4.42**	**0.28**	**4.70**	**0.06**	**0.25**	**0.32**		**4,185.78**		**0.13**		**4,188.48**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.22	3.12	24.38	0.04		0.11	0.11		0.11	0.11	0.00	4,040.61		0.21		4,045.05
Total	**1.22**	**3.12**	**24.38**	**0.04**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**4,040.61**		**0.21**		**4,045.05**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.39	4.48	2.68	0.01	0.48	0.13	0.61	0.01	0.12	0.13		1,438.85		0.02		1,439.25
Worker	1.01	0.78	10.14	0.03	3.94	0.15	4.09	0.05	0.13	0.19		2,746.93		0.11		2,749.23
Total	**1.40**	**5.26**	**12.82**	**0.04**	**4.42**	**0.28**	**4.70**	**0.06**	**0.25**	**0.32**		**4,185.78**		**0.13**		**4,188.48**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.23	13.23	21.99	0.04		0.52	0.52		0.52	0.52		4,040.61		0.20		4,044.79
Total	**2.23**	**13.23**	**21.99**	**0.04**		**0.52**	**0.52**		**0.52**	**0.52**		**4,040.61**		**0.20**		**4,044.79**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.37	4.30	2.56	0.01	0.48	0.12	0.60	0.01	0.11	0.12		1,440.61		0.02		1,440.98
Worker	0.97	0.73	9.55	0.03	3.94	0.15	4.09	0.05	0.14	0.19		2,704.07		0.10		2,706.26
Total	**1.34**	**5.03**	**12.11**	**0.04**	**4.42**	**0.27**	**4.69**	**0.06**	**0.25**	**0.31**		**4,144.68**		**0.12**		**4,147.24**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.22	3.12	24.38	0.04		0.11	0.11		0.11	0.11	0.00	4,040.61		0.20		4,044.79
Total	**1.22**	**3.12**	**24.38**	**0.04**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**4,040.61**		**0.20**		**4,044.79**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.37	4.30	2.56	0.01	0.48	0.12	0.60	0.01	0.11	0.12		1,440.61		0.02		1,440.98
Worker	0.97	0.73	9.55	0.03	3.94	0.15	4.09	0.05	0.14	0.19		2,704.07		0.10		2,706.26
Total	**1.34**	**5.03**	**12.11**	**0.04**	**4.42**	**0.27**	**4.69**	**0.06**	**0.25**	**0.31**		**4,144.68**		**0.12**		**4,147.24**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.84	17.71	19.58	0.03		1.20	1.20		1.20	1.20		2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.84**	**17.71**	**19.58**	**0.03**		**1.20**	**1.20**		**1.20**	**1.20**		**2,917.64**		**0.25**		**2,922.99**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.47	0.00	0.20	0.01	0.20	0.00	0.01	0.01		134.31		0.01		134.42
Total	**0.05**	**0.04**	**0.47**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**134.31**		**0.01**		**134.42**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.87	1.54	19.00	0.03		0.08	0.08		0.08	0.08	0.00	2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.87**	**1.54**	**19.00**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,917.64**		**0.25**		**2,922.99**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.47	0.00	0.20	0.01	0.20	0.00	0.01	0.01		134.31		0.01		134.42
Total	**0.05**	**0.04**	**0.47**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**134.31**		**0.01**		**134.42**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	83.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.19	1.30	1.81	0.00		0.07	0.07		0.07	0.07		281.19		0.02		281.54
Total	**83.82**	**1.30**	**1.81**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**		**281.19**		**0.02**		**281.54**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Worker	0.19	0.14	1.90	0.01	0.78	0.03	0.81	0.01	0.03	0.04		537.23		0.02		537.67
Total	**0.19**	**0.14**	**1.90**	**0.01**	**0.78**	**0.03**	**0.81**	**0.01**	**0.03**	**0.04**		**537.23**		**0.02**		**537.67**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	83.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.08	0.15	1.83	0.00		0.01	0.01		0.01	0.01	0.00	281.19		0.02		281.54
Total	**83.71**	**0.15**	**1.83**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**281.19**		**0.02**		**281.54**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.19	0.14	1.90	0.01	0.78	0.03	0.81	0.01	0.03	0.04		537.23		0.02		537.67
Total	**0.19**	**0.14**	**1.90**	**0.01**	**0.78**	**0.03**	**0.81**	**0.01**	**0.03**	**0.04**		**537.23**		**0.02**		**537.67**

Grand Park Specific Plan - Phase 4 (PA 1,2,3,ES)

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Elementary School	850	Student
Condo/Townhouse	378	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Acreage based on Project Description. Population rate: 3.97 population/acre as per The Ontario Plan

Construction Phase - Marginal demolition assumed

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	7.87	53.07	43.44	0.10	18.30	2.23	20.33	9.93	2.23	11.96	0.00	11,027.96	0.00	0.71	0.00	11,042.77
2021	4.11	21.80	35.40	0.09	4.42	1.02	5.44	0.07	1.00	1.06	0.00	8,019.77	0.00	0.36	0.00	8,027.25
2022	3.87	19.98	34.57	0.09	4.42	0.90	5.32	0.07	0.88	0.94	0.00	7,978.87	0.00	0.33	0.00	7,985.88
2023	84.02	18.38	33.83	0.09	4.42	1.21	5.21	0.07	1.21	1.21	0.00	7,940.60	0.00	0.32	0.00	7,947.22
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2020	2.84	9.19	52.25	0.10	8.36	0.40	8.58	4.47	0.38	4.69	0.00	11,027.96	0.00	0.71	0.00	11,042.77
2021	2.77	8.84	37.69	0.09	4.42	0.39	4.81	0.07	0.37	0.44	0.00	8,019.77	0.00	0.36	0.00	8,027.25
2022	2.70	8.53	36.92	0.09	4.42	0.38	4.81	0.07	0.36	0.43	0.00	7,978.87	0.00	0.33	0.00	7,985.88
2023	83.91	8.27	36.23	0.09	4.42	0.38	4.80	0.07	0.36	0.42	0.00	7,940.60	0.00	0.32	0.00	7,947.22
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Cleaner Engines for Construction Equipment

Use DPF for Construction Equipment

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	5.75	39.50	34.40	0.07		1.73	1.73		1.73	1.73		7,510.81		0.52		7,521.66
Total	**5.75**	**39.50**	**34.40**	**0.07**		**1.73**	**1.73**		**1.73**	**1.73**		**7,510.81**		**0.52**		**7,521.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.52	0.00	0.20	0.01	0.20	0.00	0.01	0.01		128.48		0.01		128.60
Total	**0.06**	**0.05**	**0.52**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**128.48**		**0.01**		**128.60**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.88	3.96	37.73	0.07		0.20	0.20		0.20	0.20	0.00	7,510.81		0.52		7,521.66
Total	**1.88**	**3.96**	**37.73**	**0.07**		**0.20**	**0.20**		**0.20**	**0.20**	**0.00**	**7,510.81**		**0.52**		**7,521.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.52	0.00	0.20	0.01	0.20	0.00	0.01	0.01		128.48		0.01		128.60
Total	**0.06**	**0.05**	**0.52**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**128.48**		**0.01**		**128.60**

3.3 Site Preparation - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	6.65	48.28	33.08	0.07		2.02	2.02		2.02	2.02		7,997.69		0.60		8,010.20
Total	**6.65**	**48.28**	**33.08**	**0.07**	**18.07**	**2.02**	**20.09**	**9.93**	**2.02**	**11.95**		**7,997.69**		**0.60**		**8,010.20**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.62	0.00	0.23	0.01	0.24	0.00	0.01	0.01		154.18		0.01		154.32
Total	**0.07**	**0.06**	**0.62**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**154.18**		**0.01**		**154.32**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	2.06	4.22	35.32	0.07		0.21	0.21		0.21	0.21	0.00	7,997.69		0.60		8,010.20
Total	**2.06**	**4.22**	**35.32**	**0.07**	**8.13**	**0.21**	**8.34**	**4.47**	**0.21**	**4.68**	**0.00**	**7,997.69**		**0.60**		**8,010.20**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.62	0.00	0.23	0.01	0.24	0.00	0.01	0.01		154.18		0.01		154.32
Total	**0.07**	**0.06**	**0.62**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**154.18**		**0.01**		**154.32**

3.4 Grading - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	7.79	53.00	42.75	0.10		2.22	2.22		2.22	2.22		10,856.65		0.70		10,871.30
Total	**7.79**	**53.00**	**42.75**	**0.10**	**8.67**	**2.22**	**10.89**	**3.31**	**2.22**	**5.53**		**10,856.65**		**0.70**		**10,871.30**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.69	0.00	0.26	0.01	0.27	0.00	0.01	0.01		171.31		0.01		171.47
Total	**0.08**	**0.07**	**0.69**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**171.31**		**0.01**		**171.47**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	2.72	5.73	51.55	0.10		0.29	0.29		0.29	0.29	0.00	10,856.65		0.70		10,871.30
Total	**2.72**	**5.73**	**51.55**	**0.10**	**3.90**	**0.29**	**4.19**	**1.49**	**0.29**	**1.78**	**0.00**	**10,856.65**		**0.70**		**10,871.30**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.08	0.07	0.69	0.00	0.26	0.01	0.27	0.00	0.01	0.01		171.31		0.01		171.47
Total	**0.08**	**0.07**	**0.69**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**171.31**		**0.01**		**171.47**

3.5 Building Construction - 2020

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.80	17.88	22.24	0.04		0.88	0.88		0.88	0.88		4,040.62		0.25		4,045.85
Total	**2.80**	**17.88**	**22.24**	**0.04**		**0.88**	**0.88**		**0.88**	**0.88**		**4,040.62**		**0.25**		**4,045.85**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.46	5.04	3.59	0.01	0.48	0.15	0.63	0.01	0.14	0.15		1,420.52		0.02		1,420.99
Worker	1.16	1.04	10.48	0.03	3.94	0.14	4.08	0.05	0.13	0.19		2,586.83		0.11		2,589.20
Total	**1.62**	**6.08**	**14.07**	**0.04**	**4.42**	**0.29**	**4.71**	**0.06**	**0.27**	**0.34**		**4,007.35**		**0.13**		**4,010.19**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.22	3.12	24.38	0.04		0.11	0.11		0.11	0.11	0.00	4,040.62		0.25		4,045.85
Total	**1.22**	**3.12**	**24.38**	**0.04**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**4,040.62**		**0.25**		**4,045.85**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.46	5.04	3.59	0.01	0.48	0.15	0.63	0.01	0.14	0.15		1,420.52		0.02		1,420.99
Worker	1.16	1.04	10.48	0.03	3.94	0.14	4.08	0.05	0.13	0.19		2,586.83		0.11		2,589.20
Total	**1.62**	**6.08**	**14.07**	**0.04**	**4.42**	**0.29**	**4.71**	**0.06**	**0.27**	**0.34**		**4,007.35**		**0.13**		**4,010.19**

3.5 Building Construction - 2021

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.56	16.08	22.10	0.04		0.74	0.74		0.74	0.74		4,040.61		0.23		4,045.38
Total	**2.56**	**16.08**	**22.10**	**0.04**		**0.74**	**0.74**		**0.74**	**0.74**		**4,040.61**		**0.23**		**4,045.38**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.44	4.75	3.42	0.01	0.48	0.14	0.62	0.01	0.13	0.14		1,424.32		0.02		1,424.76
Worker	1.12	0.97	9.88	0.03	3.94	0.14	4.09	0.05	0.13	0.19		2,554.84		0.11		2,557.11
Total	**1.56**	**5.72**	**13.30**	**0.04**	**4.42**	**0.28**	**4.71**	**0.06**	**0.26**	**0.33**		**3,979.16**		**0.13**		**3,981.87**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.22	3.12	24.38	0.04		0.11	0.11		0.11	0.11	0.00	4,040.61		0.23		4,045.38
Total	**1.22**	**3.12**	**24.38**	**0.04**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**4,040.61**		**0.23**		**4,045.38**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.44	4.75	3.42	0.01	0.48	0.14	0.62	0.01	0.13	0.14		1,424.32		0.02		1,424.76

Worker	1.12	0.97	9.88	0.03	3.94	0.14	4.09	0.05	0.13	0.19		2,554.84		0.11		2,557.11
Total	**1.56**	**5.72**	**13.30**	**0.04**	**4.42**	**0.28**	**4.71**	**0.06**	**0.26**	**0.33**		**3,979.16**		**0.13**		**3,981.87**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62		4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**		**4,040.61**		**0.21**		**4,045.05**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.41	4.52	3.26	0.01	0.48	0.13	0.61	0.01	0.12	0.13		1,426.01		0.02		1,426.42
Worker	1.07	0.90	9.28	0.03	3.94	0.15	4.09	0.05	0.13	0.19		2,512.25		0.10		2,514.40
Total	**1.48**	**5.42**	**12.54**	**0.04**	**4.42**	**0.28**	**4.70**	**0.06**	**0.25**	**0.32**		**3,938.26**		**0.12**		**3,940.82**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Off-Road	1.22	3.12	24.38	0.04		0.11	0.11		0.11	0.11	0.00	4,040.61		0.21		4,045.05
Total	**1.22**	**3.12**	**24.38**	**0.04**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**4,040.61**		**0.21**		**4,045.05**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.41	4.52	3.26	0.01	0.48	0.13	0.61	0.01	0.12	0.13		1,426.01		0.02		1,426.42
Worker	1.07	0.90	9.28	0.03	3.94	0.15	4.09	0.05	0.13	0.19		2,512.25		0.10		2,514.40
Total	**1.48**	**5.42**	**12.54**	**0.04**	**4.42**	**0.28**	**4.70**	**0.06**	**0.25**	**0.32**		**3,938.26**		**0.12**		**3,940.82**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.23	13.23	21.99	0.04		0.52	0.52		0.52	0.52		4,040.61		0.20		4,044.79
Total	**2.23**	**13.23**	**21.99**	**0.04**		**0.52**	**0.52**		**0.52**	**0.52**		**4,040.61**		**0.20**		**4,044.79**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.40	4.32	3.12	0.01	0.48	0.12	0.60	0.01	0.11	0.13		1,427.53		0.02		1,427.93
Worker	1.03	0.83	8.72	0.03	3.94	0.15	4.09	0.05	0.14	0.19		2,472.45		0.10		2,474.50
Total	**1.43**	**5.15**	**11.84**	**0.04**	**4.42**	**0.27**	**4.69**	**0.06**	**0.25**	**0.32**		**3,899.98**		**0.12**		**3,902.43**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.22	3.12	24.38	0.04		0.11	0.11		0.11	0.11	0.00	4,040.61		0.20		4,044.79
Total	**1.22**	**3.12**	**24.38**	**0.04**		**0.11**	**0.11**		**0.11**	**0.11**	**0.00**	**4,040.61**		**0.20**		**4,044.79**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.40	4.32	3.12	0.01	0.48	0.12	0.60	0.01	0.11	0.13		1,427.53		0.02		1,427.93
Worker	1.03	0.83	8.72	0.03	3.94	0.15	4.09	0.05	0.14	0.19		2,472.45		0.10		2,474.50
Total	**1.43**	**5.15**	**11.84**	**0.04**	**4.42**	**0.27**	**4.69**	**0.06**	**0.25**	**0.32**		**3,899.98**		**0.12**		**3,902.43**

3.6 Paving - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.84	17.71	19.58	0.03		1.20	1.20		1.20	1.20		2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.84**	**17.71**	**19.58**	**0.03**		**1.20**	**1.20**		**1.20**	**1.20**		**2,917.64**		**0.25**		**2,922.99**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.43	0.00	0.20	0.01	0.20	0.00	0.01	0.01		122.80		0.00		122.91
Total	**0.05**	**0.04**	**0.43**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**122.80**		**0.00**		**122.91**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	0.87	1.54	19.00	0.03		0.08	0.08		0.08	0.08	0.00	2,917.64		0.25		2,922.99
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**0.87**	**1.54**	**19.00**	**0.03**		**0.08**	**0.08**		**0.08**	**0.08**	**0.00**	**2,917.64**		**0.25**		**2,922.99**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.43	0.00	0.20	0.01	0.20	0.00	0.01	0.01		122.80		0.00		122.91
Total	**0.05**	**0.04**	**0.43**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**122.80**		**0.00**		**122.91**

3.7 Architectural Coating - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	83.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.19	1.30	1.81	0.00		0.07	0.07		0.07	0.07		281.19		0.02		281.54
Total	**83.82**	**1.30**	**1.81**	**0.00**		**0.07**	**0.07**		**0.07**	**0.07**		**281.19**		**0.02**		**281.54**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.20	0.17	1.73	0.01	0.78	0.03	0.81	0.01	0.03	0.04		491.22		0.02		491.62

Total	**0.20**	**0.17**	**1.73**	**0.01**	**0.78**	**0.03**	**0.81**	**0.01**	**0.03**	**0.04**		**491.22**		**0.02**		**491.62**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	83.63					0.00	0.00		0.00	0.00						0.00
Off-Road	0.08	0.15	1.83	0.00		0.01	0.01		0.01	0.01	0.00	281.19		0.02		281.54
Total	**83.71**	**0.15**	**1.83**	**0.00**		**0.01**	**0.01**		**0.01**	**0.01**	**0.00**	**281.19**		**0.02**		**281.54**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.20	0.17	1.73	0.01	0.78	0.03	0.81	0.01	0.03	0.04		491.22		0.02		491.62
Total	**0.20**	**0.17**	**1.73**	**0.01**	**0.78**	**0.03**	**0.81**	**0.01**	**0.03**	**0.04**		**491.22**		**0.02**		**491.62**

Grand Park Specific Plan Phase 5 (City Park)

South Coast Air Basin, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
City Park	65	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Minor amount of demolition of existing structures

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.65	4.15	4.20	0.01	0.86	0.17	1.03	0.40	0.17	0.57	0.00	916.70	916.70	0.05	0.00	917.81
2023	0.29	1.72	2.86	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.00	476.40	476.40	0.02	0.00	476.89
2024	0.28	1.58	2.87	0.01	0.00	0.06	0.06	0.00	0.06	0.06	0.00	480.06	480.06	0.02	0.00	480.53
2025	0.26	1.44	2.86	0.01	0.00	0.05	0.05	0.00	0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
2026	0.23	1.32	2.19	0.00	0.01	0.06	0.07	0.00	0.06	0.06	0.00	343.63	343.63	0.02	0.00	344.01
2027	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04	2.04	0.00	0.00	2.04
Total	**1.71**	**10.22**	**14.99**	**0.04**	**0.87**	**0.41**	**1.28**	**0.40**	**0.41**	**0.81**	**0.00**	**2,697.06**	**2,697.06**	**0.13**	**0.00**	**2,699.94**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	tons/yr										MT/yr					
2022	0.65	4.15	4.20	0.01	0.40	0.17	0.57	0.18	0.17	0.35	0.00	916.70	916.70	0.05	0.00	917.81
2023	0.29	1.72	2.86	0.01	0.00	0.07	0.07	0.00	0.07	0.07	0.00	476.40	476.40	0.02	0.00	476.89
2024	0.28	1.58	2.87	0.01	0.00	0.06	0.06	0.00	0.06	0.06	0.00	480.06	480.06	0.02	0.00	480.53
2025	0.26	1.44	2.86	0.01	0.00	0.05	0.05	0.00	0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
2026	0.23	1.32	2.19	0.00	0.01	0.06	0.07	0.00	0.06	0.06	0.00	343.63	343.63	0.02	0.00	344.01
2027	0.00	0.01	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.04	2.04	0.00	0.00	2.04
Total	**1.71**	**10.22**	**14.99**	**0.04**	**0.41**	**0.41**	**0.82**	**0.18**	**0.41**	**0.59**	**0.00**	**2,697.06**	**2,697.06**	**0.13**	**0.00**	**2,699.94**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.17	0.17	0.00		0.01	0.01		0.01	0.01	0.00	34.06	34.06	0.00	0.00	34.10
Total	**0.03**	**0.17**	**0.17**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.10**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.88	0.00	0.00	0.88
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.58	0.00	0.00	0.58
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.46**	**1.46**	**0.00**	**0.00**	**1.46**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.03	0.17	0.17	0.00		0.01	0.01		0.01	0.01	0.00	34.06	34.06	0.00	0.00	34.10
Total	**0.03**	**0.17**	**0.17**	**0.00**	**0.00**	**0.01**	**0.01**	**0.00**	**0.01**	**0.01**	**0.00**	**34.06**	**34.06**	**0.00**	**0.00**	**34.10**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.88	0.88	0.00	0.00	0.88
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.58	0.58	0.00	0.00	0.58
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**1.46**	**1.46**	**0.00**	**0.00**	**1.46**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.36	0.00	0.36	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.12	0.83	0.62	0.00		0.03	0.03		0.03	0.03	0.00	145.07	145.07	0.01	0.00	145.27
Total	**0.12**	**0.83**	**0.62**	**0.00**	**0.36**	**0.03**	**0.39**	**0.20**	**0.03**	**0.23**	**0.00**	**145.07**	**145.07**	**0.01**	**0.00**	**145.27**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.79	2.79	0.00	0.00	2.80
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.79**	**2.79**	**0.00**	**0.00**	**2.80**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.16	0.00	0.16	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.12	0.83	0.62	0.00		0.03	0.03		0.03	0.03	0.00	145.07	145.07	0.01	0.00	145.27
Total	**0.12**	**0.83**	**0.62**	**0.00**	**0.16**	**0.03**	**0.19**	**0.09**	**0.03**	**0.12**	**0.00**	**145.07**	**145.07**	**0.01**	**0.00**	**145.27**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Worker	0.00	0.00	0.01	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.79	2.79	0.00	0.00	2.80
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**2.79**	**2.79**	**0.00**	**0.00**	**2.80**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Fugitive Dust					0.48	0.00	0.48	0.20	0.00	0.20	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.38	2.42	2.26	0.01		0.10	0.10		0.10	0.10	0.00	541.55	541.55	0.03	0.00	542.19
Total	**0.38**	**2.42**	**2.26**	**0.01**	**0.48**	**0.10**	**0.58**	**0.20**	**0.10**	**0.30**	**0.00**	**541.55**	**541.55**	**0.03**	**0.00**	**542.19**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	8.54	8.54	0.00	0.00	8.54
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**8.54**	**8.54**	**0.00**	**0.00**	**8.54**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Fugitive Dust					0.21	0.00	0.21	0.09	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.38	2.42	2.26	0.01		0.10	0.10		0.10	0.10	0.00	541.55	541.55	0.03	0.00	542.19
Total	**0.38**	**2.42**	**2.26**	**0.01**	**0.21**	**0.10**	**0.31**	**0.09**	**0.10**	**0.19**	**0.00**	**541.55**	**541.55**	**0.03**	**0.00**	**542.19**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.03	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	8.54	8.54	0.00	0.00	8.54
Total	**0.00**	**0.00**	**0.03**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**8.54**	**8.54**	**0.00**	**0.00**	**8.54**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.12	0.73	1.10	0.00		0.03	0.03		0.03	0.03	0.00	183.23	183.23	0.01	0.00	183.43
Total	**0.12**	**0.73**	**1.10**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**183.23**	**183.23**	**0.01**	**0.00**	**183.43**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.12	0.73	1.10	0.00		0.03	0.03		0.03	0.03	0.00	183.23	183.23	0.01	0.00	183.43
Total	**0.12**	**0.73**	**1.10**	**0.00**		**0.03**	**0.03**		**0.03**	**0.03**	**0.00**	**183.23**	**183.23**	**0.01**	**0.00**	**183.43**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.29	1.72	2.86	0.01		0.07	0.07		0.07	0.07	0.00	476.40	476.40	0.02	0.00	476.89
Total	**0.29**	**1.72**	**2.86**	**0.01**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.89**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.29	1.72	2.86	0.01		0.07	0.07		0.07	0.07	0.00	476.40	476.40	0.02	0.00	476.89
Total	**0.29**	**1.72**	**2.86**	**0.01**		**0.07**	**0.07**		**0.07**	**0.07**	**0.00**	**476.40**	**476.40**	**0.02**	**0.00**	**476.89**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.28	1.58	2.87	0.01		0.06	0.06		0.06	0.06	0.00	480.06	480.06	0.02	0.00	480.53
Total	**0.28**	**1.58**	**2.87**	**0.01**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.53**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.28	1.58	2.87	0.01		0.06	0.06		0.06	0.06	0.00	480.06	480.06	0.02	0.00	480.53
Total	**0.28**	**1.58**	**2.87**	**0.01**		**0.06**	**0.06**		**0.06**	**0.06**	**0.00**	**480.06**	**480.06**	**0.02**	**0.00**	**480.53**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.26	1.44	2.86	0.01		0.05	0.05		0.05	0.05	0.00	478.23	478.23	0.02	0.00	478.66
Total	**0.26**	**1.44**	**2.86**	**0.01**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**478.23**	**478.23**	**0.02**	**0.00**	**478.66**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.13	0.70	1.39	0.00		0.02	0.02		0.02	0.02	0.00	232.70	232.70	0.01	0.00	232.91
Total	**0.13**	**0.70**	**1.39**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**232.70**	**232.70**	**0.01**	**0.00**	**232.91**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.13	0.70	1.39	0.00		0.02	0.02		0.02	0.02	0.00	232.70	232.70	0.01	0.00	232.91
Total	**0.13**	**0.70**	**1.39**	**0.00**		**0.02**	**0.02**		**0.02**	**0.02**	**0.00**	**232.70**	**232.70**	**0.01**	**0.00**	**232.91**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.6 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.58	0.73	0.00		0.04	0.04		0.04	0.04	0.00	99.23	99.23	0.01	0.00	99.39
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.09**	**0.58**	**0.73**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**99.23**	**99.23**	**0.01**	**0.00**	**99.39**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Worker	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.17	4.17	0.00	0.00	4.18
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.17**	**4.17**	**0.00**	**0.00**	**4.18**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Off-Road	0.09	0.58	0.73	0.00		0.04	0.04		0.04	0.04	0.00	99.23	99.23	0.01	0.00	99.39
Paving	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.09**	**0.58**	**0.73**	**0.00**		**0.04**	**0.04**		**0.04**	**0.04**	**0.00**	**99.23**	**99.23**	**0.01**	**0.00**	**99.39**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.01	0.00	0.01	0.00	0.01	0.00	0.00	0.00	0.00	4.17	4.17	0.00	0.00	4.18
Total	**0.00**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.01**	**0.00**	**0.00**	**0.00**	**0.00**	**4.17**	**4.17**	**0.00**	**0.00**	**4.18**

3.7 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					

Archit. Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.03	0.05	0.00		0.00	0.00		0.00	0.00	0.00	7.52	7.52	0.00	0.00	7.53
Total	**0.01**	**0.03**	**0.05**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**7.52**	**7.52**	**0.00**	**0.00**	**7.53**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.01	0.03	0.05	0.00		0.00	0.00		0.00	0.00	0.00	7.52	7.52	0.00	0.00	7.53
Total	**0.01**	**0.03**	**0.05**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**7.52**	**7.52**	**0.00**	**0.00**	**7.53**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

3.7 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	2.04	2.04	0.00	0.00	2.04
Total	**0.00**	**0.01**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.04**	**2.04**	**0.00**	**0.00**	**2.04**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Archit. Coating	0.00					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Off-Road	0.00	0.01	0.01	0.00		0.00	0.00		0.00	0.00	0.00	2.04	2.04	0.00	0.00	2.04
Total	**0.00**	**0.01**	**0.01**	**0.00**		**0.00**	**0.00**		**0.00**	**0.00**	**0.00**	**2.04**	**2.04**	**0.00**	**0.00**	**2.04**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**

Grand Park Specific Plan Phase 5 (City Park)

South Coast Air Basin, Summer

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
City Park	65	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Minor amount of demolition of existing structures

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	7.05	44.02	41.86	0.10	18.30	1.80	19.97	9.93	1.79	11.60	0.00	11,038.57	0.00	0.63	0.00	11,051.70
2023	2.23	13.23	21.99	0.04	0.00	0.52	0.52	0.00	0.52	0.52	0.00	4,040.61	0.00	0.20	0.00	4,044.79
2024	2.11	12.06	21.95	0.04	0.00	0.45	0.45	0.00	0.45	0.45	0.00	4,040.62	0.00	0.19	0.00	4,044.56
2025	1.99	11.04	21.92	0.04	0.00	0.38	0.38	0.00	0.38	0.38	0.00	4,040.62	0.00	0.17	0.00	4,044.28
2026	2.53	15.59	21.92	0.04	0.20	0.96	1.16	0.00	0.96	0.96	0.00	4,040.62	0.00	0.23	0.00	4,045.41
2027	0.17	1.14	1.81	0.00	0.00	0.05	0.05	0.00	0.05	0.05	0.00	281.19	0.00	0.02	0.00	281.51
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	7.05	44.02	41.86	0.10	8.36	1.80	10.03	4.47	1.79	6.14	0.00	11,038.57	0.00	0.63	0.00	11,051.70
2023	2.23	13.23	21.99	0.04	0.00	0.52	0.52	0.00	0.52	0.52	0.00	4,040.61	0.00	0.20	0.00	4,044.79
2024	2.11	12.06	21.95	0.04	0.00	0.45	0.45	0.00	0.45	0.45	0.00	4,040.62	0.00	0.19	0.00	4,044.56
2025	1.99	11.04	21.92	0.04	0.00	0.38	0.38	0.00	0.38	0.38	0.00	4,040.62	0.00	0.17	0.00	4,044.28
2026	2.53	15.59	21.92	0.04	0.20	0.96	1.16	0.00	0.96	0.96	0.00	4,040.62	0.00	0.23	0.00	4,045.41
2027	0.17	1.14	1.81	0.00	0.00	0.05	0.05	0.00	0.05	0.05	0.00	281.19	0.00	0.02	0.00	281.51
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.49	0.00	0.49	0.00	0.00	0.00						0.00
Off-Road	5.14	33.08	33.01	0.07		1.41	1.41		1.41	1.41		7,510.82		0.46		7,520.53
Total	**5.14**	**33.08**	**33.01**	**0.07**	**0.49**	**1.41**	**1.90**	**0.00**	**1.41**	**1.41**		**7,510.82**		**0.46**		**7,520.53**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.05	0.56	0.32	0.00	0.54	0.02	0.56	0.00	0.02	0.02		195.38		0.00		195.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.50	0.00	0.20	0.01	0.20	0.00	0.01	0.01		136.44		0.01		136.55
Total	**0.10**	**0.60**	**0.82**	**0.00**	**0.74**	**0.03**	**0.76**	**0.00**	**0.03**	**0.03**		**331.82**		**0.01**		**331.98**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.22	0.00	0.22	0.00	0.00	0.00						0.00
Off-Road	5.14	33.08	33.01	0.07		1.41	1.41		1.41	1.41	0.00	7,510.82		0.46		7,520.53
Total	**5.14**	**33.08**	**33.01**	**0.07**	**0.22**	**1.41**	**1.63**	**0.00**	**1.41**	**1.41**	**0.00**	**7,510.82**		**0.46**		**7,520.53**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.05	0.56	0.32	0.00	0.54	0.02	0.56	0.00	0.02	0.02		195.38		0.00		195.43
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.50	0.00	0.20	0.01	0.20	0.00	0.01	0.01		136.44		0.01		136.55
Total	**0.10**	**0.60**	**0.82**	**0.00**	**0.74**	**0.03**	**0.76**	**0.00**	**0.03**	**0.03**		**331.82**		**0.01**		**331.98**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	6.00	41.58	31.01	0.07		1.66	1.66		1.66	1.66		7,997.69		0.54		8,008.96
Total	**6.00**	**41.58**	**31.01**	**0.07**	**18.07**	**1.66**	**19.73**	**9.93**	**1.66**	**11.59**		**7,997.69**		**0.54**		**8,008.96**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.60	0.00	0.23	0.01	0.24	0.00	0.01	0.01		163.72		0.01		163.86
Total	**0.06**	**0.05**	**0.60**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**163.72**		**0.01**		**163.86**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	6.00	41.58	31.01	0.07		1.66	1.66		1.66	1.66	0.00	7,997.69		0.54		8,008.96
Total	**6.00**	**41.58**	**31.01**	**0.07**	**8.13**	**1.66**	**9.79**	**4.47**	**1.66**	**6.13**	**0.00**	**7,997.69**		**0.54**		**8,008.96**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Worker	0.06	0.05	0.60	0.00	0.23	0.01	0.24	0.00	0.01	0.01		163.72		0.01		163.86
Total	**0.06**	**0.05**	**0.60**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**163.72**		**0.01**		**163.86**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	6.98	43.97	41.19	0.10		1.79	1.79		1.79	1.79		10,856.65		0.62		10,869.63
Total	**6.98**	**43.97**	**41.19**	**0.10**	**8.67**	**1.79**	**10.46**	**3.31**	**1.79**	**5.10**		**10,856.65**		**0.62**		**10,869.63**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.05	0.67	0.00	0.26	0.01	0.27	0.00	0.01	0.01		181.92		0.01		182.07
Total	**0.07**	**0.05**	**0.67**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**181.92**		**0.01**		**182.07**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00
Off-Road	6.98	43.97	41.19	0.10		1.79	1.79		1.79	1.79	0.00	10,856.65		0.62		10,869.63
Total	**6.98**	**43.97**	**41.19**	**0.10**	**3.90**	**1.79**	**5.69**	**1.49**	**1.79**	**3.28**	**0.00**	**10,856.65**		**0.62**		**10,869.63**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.05	0.67	0.00	0.26	0.01	0.27	0.00	0.01	0.01		181.92		0.01		182.07
Total	**0.07**	**0.05**	**0.67**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**181.92**		**0.01**		**182.07**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62		4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**		**4,040.61**		**0.21**		**4,045.05**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62	0.00	4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**	**0.00**	**4,040.61**		**0.21**		**4,045.05**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.23	13.23	21.99	0.04		0.52	0.52		0.52	0.52		4,040.61		0.20		4,044.79
Total	**2.23**	**13.23**	**21.99**	**0.04**		**0.52**	**0.52**		**0.52**	**0.52**		**4,040.61**		**0.20**		**4,044.79**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.23	13.23	21.99	0.04		0.52	0.52		0.52	0.52	0.00	4,040.61		0.20		4,044.79
Total	**2.23**	**13.23**	**21.99**	**0.04**		**0.52**	**0.52**		**0.52**	**0.52**	**0.00**	**4,040.61**		**0.20**		**4,044.79**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.11	12.06	21.95	0.04		0.45	0.45		0.45	0.45		4,040.62		0.19		4,044.56
Total	**2.11**	**12.06**	**21.95**	**0.04**		**0.45**	**0.45**		**0.45**	**0.45**		**4,040.62**		**0.19**		**4,044.56**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.11	12.06	21.95	0.04		0.45	0.45		0.45	0.45	0.00	4,040.62		0.19		4,044.56
Total	**2.11**	**12.06**	**21.95**	**0.04**		**0.45**	**0.45**		**0.45**	**0.45**	**0.00**	**4,040.62**		**0.19**		**4,044.56**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.99	11.04	21.92	0.04		0.38	0.38		0.38	0.38		4,040.62		0.17		4,044.28
Total	**1.99**	**11.04**	**21.92**	**0.04**		**0.38**	**0.38**		**0.38**	**0.38**		**4,040.62**		**0.17**		**4,044.28**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.99	11.04	21.92	0.04		0.38	0.38		0.38	0.38	0.00	4,040.62		0.17		4,044.28
Total	**1.99**	**11.04**	**21.92**	**0.04**		**0.38**	**0.38**		**0.38**	**0.38**	**0.00**	**4,040.62**		**0.17**		**4,044.28**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.99	11.04	21.92	0.04		0.38	0.38		0.38	0.38		4,040.62		0.17		4,044.28
Total	**1.99**	**11.04**	**21.92**	**0.04**		**0.38**	**0.38**		**0.38**	**0.38**		**4,040.62**		**0.17**		**4,044.28**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.99	11.04	21.92	0.04		0.38	0.38		0.38	0.38	0.00	4,040.62		0.17		4,044.28
Total	**1.99**	**11.04**	**21.92**	**0.04**		**0.38**	**0.38**		**0.38**	**0.38**	**0.00**	**4,040.62**		**0.17**		**4,044.28**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.6 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.48	15.56	19.43	0.03		0.96	0.96		0.96	0.96		2,917.65		0.22		2,922.34
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.48**	**15.56**	**19.43**	**0.03**		**0.96**	**0.96**		**0.96**	**0.96**		**2,917.65**		**0.22**		**2,922.34**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Worker	0.04	0.03	0.42	0.00	0.20	0.01	0.20	0.00	0.01	0.01		130.54		0.00		130.64
Total	**0.04**	**0.03**	**0.42**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**130.54**		**0.00**		**130.64**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.48	15.56	19.43	0.03		0.96	0.96		0.96	0.96	0.00	2,917.65		0.22		2,922.34
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.48**	**15.56**	**19.43**	**0.03**		**0.96**	**0.96**		**0.96**	**0.96**	**0.00**	**2,917.65**		**0.22**		**2,922.34**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.04	0.03	0.42	0.00	0.20	0.01	0.20	0.00	0.01	0.01		130.54		0.00		130.64
Total	**0.04**	**0.03**	**0.42**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**130.54**		**0.00**		**130.64**

3.7 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Archit. Coating	0.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.17	1.14	1.81	0.00		0.05	0.05		0.05	0.05		281.19		0.02		281.51
Total	**0.17**	**1.14**	**1.81**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**		**281.19**		**0.02**		**281.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.17	1.14	1.81	0.00		0.05	0.05		0.05	0.05	0.00	281.19		0.02		281.51
Total	**0.17**	**1.14**	**1.81**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**281.19**		**0.02**		**281.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.7 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.17	1.14	1.81	0.00		0.05	0.05		0.05	0.05		281.19		0.02		281.51
Total	**0.17**	**1.14**	**1.81**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**		**281.19**		**0.02**		**281.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.17	1.14	1.81	0.00		0.05	0.05		0.05	0.05	0.00	281.19		0.02		281.51
Total	**0.17**	**1.14**	**1.81**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**281.19**		**0.02**		**281.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Grand Park Specific Plan Phase 5 (City Park)

South Coast Air Basin, Winter

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
City Park	65	Acre

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use -

Construction Phase - Minor amount of demolition of existing structures

Demolition -

Construction Off-road Equipment Mitigation -

2.0 Emissions Summary

2.1 Overall Construction (Maximum Daily Emission)

Unmitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	7.05	44.03	41.80	0.10	18.30	1.80	19.97	9.93	1.79	11.60	0.00	11,023.03	0.00	0.62	0.00	11,036.15
2023	2.23	13.23	21.99	0.04	0.00	0.52	0.52	0.00	0.52	0.52	0.00	4,040.61	0.00	0.20	0.00	4,044.79
2024	2.11	12.06	21.95	0.04	0.00	0.45	0.45	0.00	0.45	0.45	0.00	4,040.62	0.00	0.19	0.00	4,044.56
2025	1.99	11.04	21.92	0.04	0.00	0.38	0.38	0.00	0.38	0.38	0.00	4,040.62	0.00	0.17	0.00	4,044.28
2026	2.53	15.60	21.92	0.04	0.20	0.96	1.16	0.00	0.96	0.96	0.00	4,040.62	0.00	0.23	0.00	4,045.41
2027	0.17	1.14	1.81	0.00	0.00	0.05	0.05	0.00	0.05	0.05	0.00	281.19	0.00	0.02	0.00	281.51
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

Mitigated Construction

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Year	lb/day										lb/day					
2022	7.05	44.03	41.80	0.10	8.36	1.80	10.03	4.47	1.79	6.14	0.00	11,023.03	0.00	0.62	0.00	11,036.15
2023	2.23	13.23	21.99	0.04	0.00	0.52	0.52	0.00	0.52	0.52	0.00	4,040.61	0.00	0.20	0.00	4,044.79
2024	2.11	12.06	21.95	0.04	0.00	0.45	0.45	0.00	0.45	0.45	0.00	4,040.62	0.00	0.19	0.00	4,044.56
2025	1.99	11.04	21.92	0.04	0.00	0.38	0.38	0.00	0.38	0.38	0.00	4,040.62	0.00	0.17	0.00	4,044.28
2026	2.53	15.60	21.92	0.04	0.20	0.96	1.16	0.00	0.96	0.96	0.00	4,040.62	0.00	0.23	0.00	4,045.41
2027	0.17	1.14	1.81	0.00	0.00	0.05	0.05	0.00	0.05	0.05	0.00	281.19	0.00	0.02	0.00	281.51
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

3.0 Construction Detail

3.1 Mitigation Measures Construction

Use Soil Stabilizer

Water Exposed Area

Reduce Vehicle Speed on Unpaved Roads

3.2 Demolition - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.49	0.00	0.49	0.00	0.00	0.00						0.00
Off-Road	5.14	33.08	33.01	0.07		1.41	1.41		1.41	1.41		7,510.82		0.46		7,520.53
Total	**5.14**	**33.08**	**33.01**	**0.07**	**0.49**	**1.41**	**1.90**	**0.00**	**1.41**	**1.41**		**7,510.82**		**0.46**		**7,520.53**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.05	0.57	0.36	0.00	0.54	0.02	0.56	0.00	0.02	0.02		194.24		0.00		194.30
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.46	0.00	0.20	0.01	0.20	0.00	0.01	0.01		124.78		0.01		124.89
Total	**0.10**	**0.61**	**0.82**	**0.00**	**0.74**	**0.03**	**0.76**	**0.00**	**0.03**	**0.03**		**319.02**		**0.01**		**319.19**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					0.22	0.00	0.22	0.00	0.00	0.00						0.00
Off-Road	5.14	33.08	33.01	0.07		1.41	1.41		1.41	1.41	0.00	7,510.82		0.46		7,520.53
Total	**5.14**	**33.08**	**33.01**	**0.07**	**0.22**	**1.41**	**1.63**	**0.00**	**1.41**	**1.41**	**0.00**	**7,510.82**		**0.46**		**7,520.53**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.05	0.57	0.36	0.00	0.54	0.02	0.56	0.00	0.02	0.02		194.24		0.00		194.30
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.46	0.00	0.20	0.01	0.20	0.00	0.01	0.01		124.78		0.01		124.89
Total	**0.10**	**0.61**	**0.82**	**0.00**	**0.74**	**0.03**	**0.76**	**0.00**	**0.03**	**0.03**		**319.02**		**0.01**		**319.19**

3.3 Site Preparation - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					18.07	0.00	18.07	9.93	0.00	9.93						0.00
Off-Road	6.00	41.58	31.01	0.07		1.66	1.66		1.66	1.66		7,997.69		0.54		8,008.96
Total	**6.00**	**41.58**	**31.01**	**0.07**	**18.07**	**1.66**	**19.73**	**9.93**	**1.66**	**11.59**		**7,997.69**		**0.54**		**8,008.96**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.55	0.00	0.23	0.01	0.24	0.00	0.01	0.01		149.74		0.01		149.87
Total	**0.06**	**0.05**	**0.55**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**149.74**		**0.01**		**149.87**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.13	0.00	8.13	4.47	0.00	4.47						0.00
Off-Road	6.00	41.58	31.01	0.07		1.66	1.66		1.66	1.66	0.00	7,997.69		0.54		8,008.96
Total	**6.00**	**41.58**	**31.01**	**0.07**	**8.13**	**1.66**	**9.79**	**4.47**	**1.66**	**6.13**	**0.00**	**7,997.69**		**0.54**		**8,008.96**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.06	0.05	0.55	0.00	0.23	0.01	0.24	0.00	0.01	0.01		149.74		0.01		149.87

Total	**0.06**	**0.05**	**0.55**	**0.00**	**0.23**	**0.01**	**0.24**	**0.00**	**0.01**	**0.01**		**149.74**		**0.01**		**149.87**

3.4 Grading - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					8.67	0.00	8.67	3.31	0.00	3.31						0.00
Off-Road	6.98	43.97	41.19	0.10		1.79	1.79		1.79	1.79		10,856.65		0.62		10,869.63
Total	**6.98**	**43.97**	**41.19**	**0.10**	**8.67**	**1.79**	**10.46**	**3.31**	**1.79**	**5.10**		**10,856.65**		**0.62**		**10,869.63**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.61	0.00	0.26	0.01	0.27	0.00	0.01	0.01		166.37		0.01		166.52
Total	**0.07**	**0.06**	**0.61**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**166.37**		**0.01**		**166.52**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Fugitive Dust					3.90	0.00	3.90	1.49	0.00	1.49						0.00

Off-Road	6.98	43.97	41.19	0.10		1.79	1.79		1.79	1.79	0.00	10,856.65		0.62		10,869.63
Total	**6.98**	**43.97**	**41.19**	**0.10**	**3.90**	**1.79**	**5.69**	**1.49**	**1.79**	**3.28**	**0.00**	**10,856.65**		**0.62**		**10,869.63**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.07	0.06	0.61	0.00	0.26	0.01	0.27	0.00	0.01	0.01		166.37		0.01		166.52
Total	**0.07**	**0.06**	**0.61**	**0.00**	**0.26**	**0.01**	**0.27**	**0.00**	**0.01**	**0.01**		**166.37**		**0.01**		**166.52**

3.5 Building Construction - 2022

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62		4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**		**4,040.61**		**0.21**		**4,045.05**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.38	14.57	22.04	0.04		0.62	0.62		0.62	0.62	0.00	4,040.61		0.21		4,045.05
Total	**2.38**	**14.57**	**22.04**	**0.04**		**0.62**	**0.62**		**0.62**	**0.62**	**0.00**	**4,040.61**		**0.21**		**4,045.05**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2023

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.23	13.23	21.99	0.04		0.52	0.52		0.52	0.52		4,040.61		0.20		4,044.79
Total	**2.23**	**13.23**	**21.99**	**0.04**		**0.52**	**0.52**		**0.52**	**0.52**		**4,040.61**		**0.20**		**4,044.79**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.23	13.23	21.99	0.04		0.52	0.52		0.52	0.52	0.00	4,040.61		0.20		4,044.79
Total	**2.23**	**13.23**	**21.99**	**0.04**		**0.52**	**0.52**		**0.52**	**0.52**	**0.00**	**4,040.61**		**0.20**		**4,044.79**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2024

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.11	12.06	21.95	0.04		0.45	0.45		0.45	0.45		4,040.62		0.19		4,044.56
Total	**2.11**	**12.06**	**21.95**	**0.04**		**0.45**	**0.45**		**0.45**	**0.45**		**4,040.62**		**0.19**		**4,044.56**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.11	12.06	21.95	0.04		0.45	0.45		0.45	0.45	0.00	4,040.62		0.19		4,044.56
Total	**2.11**	**12.06**	**21.95**	**0.04**		**0.45**	**0.45**		**0.45**	**0.45**	**0.00**	**4,040.62**		**0.19**		**4,044.56**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2025

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.99	11.04	21.92	0.04		0.38	0.38		0.38	0.38		4,040.62		0.17		4,044.28
Total	**1.99**	**11.04**	**21.92**	**0.04**		**0.38**	**0.38**		**0.38**	**0.38**		**4,040.62**		**0.17**		**4,044.28**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.99	11.04	21.92	0.04		0.38	0.38		0.38	0.38	0.00	4,040.62		0.17		4,044.28
Total	**1.99**	**11.04**	**21.92**	**0.04**		**0.38**	**0.38**		**0.38**	**0.38**	**0.00**	**4,040.62**		**0.17**		**4,044.28**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.5 Building Construction - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.99	11.04	21.92	0.04		0.38	0.38		0.38	0.38		4,040.62		0.17		4,044.28
Total	**1.99**	**11.04**	**21.92**	**0.04**		**0.38**	**0.38**		**0.38**	**0.38**		**4,040.62**		**0.17**		**4,044.28**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	1.99	11.04	21.92	0.04		0.38	0.38		0.38	0.38	0.00	4,040.62		0.17		4,044.28
Total	**1.99**	**11.04**	**21.92**	**0.04**		**0.38**	**0.38**		**0.38**	**0.38**	**0.00**	**4,040.62**		**0.17**		**4,044.28**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.6 Paving - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.48	15.56	19.43	0.03		0.96	0.96		0.96	0.96		2,917.65		0.22		2,922.34
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.48**	**15.56**	**19.43**	**0.03**		**0.96**	**0.96**		**0.96**	**0.96**		**2,917.65**		**0.22**		**2,922.34**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00

Worker	0.05	0.04	0.39	0.00	0.20	0.01	0.20	0.00	0.01	0.01		119.28		0.00		119.37
Total	**0.05**	**0.04**	**0.39**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**119.28**		**0.00**		**119.37**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Off-Road	2.48	15.56	19.43	0.03		0.96	0.96		0.96	0.96	0.00	2,917.65		0.22		2,922.34
Paving	0.00					0.00	0.00		0.00	0.00						0.00
Total	**2.48**	**15.56**	**19.43**	**0.03**		**0.96**	**0.96**		**0.96**	**0.96**	**0.00**	**2,917.65**		**0.22**		**2,922.34**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.05	0.04	0.39	0.00	0.20	0.01	0.20	0.00	0.01	0.01		119.28		0.00		119.37
Total	**0.05**	**0.04**	**0.39**	**0.00**	**0.20**	**0.01**	**0.20**	**0.00**	**0.01**	**0.01**		**119.28**		**0.00**		**119.37**

3.7 Architectural Coating - 2026

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					

Archit. Coating	0.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.17	1.14	1.81	0.00		0.05	0.05		0.05	0.05		281.19		0.02		281.51
Total	**0.17**	**1.14**	**1.81**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**		**281.19**		**0.02**		**281.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.17	1.14	1.81	0.00		0.05	0.05		0.05	0.05	0.00	281.19		0.02		281.51
Total	**0.17**	**1.14**	**1.81**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**281.19**		**0.02**		**281.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e

Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

3.7 Architectural Coating - 2027

Unmitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.17	1.14	1.81	0.00		0.05	0.05		0.05	0.05		281.19		0.02		281.51
Total	**0.17**	**1.14**	**1.81**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**		**281.19**		**0.02**		**281.51**

Unmitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Mitigated Construction On-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Archit. Coating	0.00					0.00	0.00		0.00	0.00						0.00
Off-Road	0.17	1.14	1.81	0.00		0.05	0.05		0.05	0.05	0.00	281.19		0.02		281.51
Total	**0.17**	**1.14**	**1.81**	**0.00**		**0.05**	**0.05**		**0.05**	**0.05**	**0.00**	**281.19**		**0.02**		**281.51**

Mitigated Construction Off-Site

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	lb/day										lb/day					
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Worker	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00		0.00		0.00		0.00
Total	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**		**0.00**		**0.00**		**0.00**

Grand Park Specific Plan

South Coast AQMD Air District, Annual

1.0 Project Characteristics

1.1 Land Usage

Land Uses	Size	Metric
Elementary School	850	Student
High School	2500	Student
City Park	130.5	Acre
Condo/Townhouse	843	Dwelling Unit
Single Family Housing	484	Dwelling Unit

1.2 Other Project Characteristics

Urbanization	Urban	**Wind Speed (m/s)**		**Utility Company**	Southern California Edison
Climate Zone	10		2.2		
		Precipitation Freq (Days)			
			31		

1.3 User Entered Comments

Project Characteristics -

Land Use - Land Use types, sizes, and population derived from the Project Description and The Ontario Plan> Based on 3.79 occupants per dwelling unit

Construction Phase - Looking at Operations Only

Off-road Equipment - Operations Only

Vehicle Trips - As per GPSP TIA

Woodstoves - NO wood stoves or fireplaces assumed

Area Mitigation - The Ontario Plan DEIR Mitigation Measure

2.0 Emissions Summary

2.2 Overall Operational

Unmitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	13.79	0.34	28.48	0.01		0.00	1.42		0.00	1.42	140.95	845.60	986.55	0.46	0.02	1,002.30
Energy	0.24	2.09	0.96	0.01		0.00	0.17		0.00	0.17	0.00	5,694.06	5,694.06	0.19	0.10	5,729.31
Mobile	6.69	18.53	57.36	0.25	24.92	1.20	26.12	0.40	1.17	1.57	0.00	18,364.28	18,364.28	0.47	0.00	18,374.21
Waste						0.00	0.00		0.00	0.00	357.74	0.00	357.74	21.14	0.00	801.71
Water						0.00	0.00		0.00	0.00	0.00	1,165.34	1,165.34	3.09	0.10	1,259.79
Total	**20.72**	**20.96**	**86.80**	**0.27**	**24.92**	**1.20**	**27.71**	**0.40**	**1.17**	**3.16**	**498.69**	**26,069.28**	**26,567.97**	**25.35**	**0.22**	**27,167.32**

Mitigated Operational

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Area	13.47	0.34	28.48	0.01		0.00	1.42		0.00	1.42	140.95	845.60	986.55	0.46	0.02	1,002.30
Energy	0.24	2.09	0.96	0.01		0.00	0.17		0.00	0.17	0.00	5,694.06	5,694.06	0.19	0.10	5,729.31
Mobile	6.69	18.53	57.36	0.25	24.92	1.20	26.12	0.40	1.17	1.57	0.00	18,364.28	18,364.28	0.47	0.00	18,374.21
Waste						0.00	0.00		0.00	0.00	357.74	0.00	357.74	21.14	0.00	801.71

Water						0.00	0.00		0.00	0.00	0.00	1,165.34	1,165.34	3.09	0.10	1,259.79
Total	**20.40**	**20.96**	**86.80**	**0.27**	**24.92**	**1.20**	**27.71**	**0.40**	**1.17**	**3.16**	**498.69**	**26,069.28**	**26,567.97**	**25.35**	**0.22**	**27,167.32**

4.0 Mobile Detail

4.1 Mitigation Measures Mobile

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	6.69	18.53	57.36	0.25	24.92	1.20	26.12	0.40	1.17	1.57	0.00	18,364.28	18,364.28	0.47	0.00	18,374.21
Unmitigated	6.69	18.53	57.36	0.25	24.92	1.20	26.12	0.40	1.17	1.57	0.00	18,364.28	18,364.28	0.47	0.00	18,374.21
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

4.2 Trip Summary Information

	Average Daily Trip Rate			Unmitigated	Mitigated
Land Use	Weekday	Saturday	Sunday	Annual VMT	Annual VMT
City Park	207.50	207.50	207.50	591,892	591,892
Condo/Townhouse	5,555.37	6,035.88	5117.01	18,522,629	18,522,629
Elementary School	1,096.50	0.00	0.00	2,006,296	2,006,296
High School	4,275.00	1,525.00	625.00	9,355,169	9,355,169
Single Family Housing	4,631.88	4,878.72	4244.68	15,360,039	15,360,039
Total	15,766.25	12,647.10	10,194.19	45,836,025	45,836,025

4.3 Trip Type Information

	Miles			Trip %		
Land Use	H-W or C-W	H-S or C-C	H-O or C-NW	H-W or C-W	H-S or C-C	H-O or C-NW
City Park	8.90	13.30	7.40	33.00	48.00	19.00
Condo/Townhouse	12.70	7.00	9.50	40.20	19.20	40.60
Elementary School	8.90	13.30	7.40	65.00	30.00	5.00
High School	8.90	13.30	7.40	77.80	17.20	5.00
Single Family Housing	12.70	7.00	9.50	40.20	19.20	40.60

5.0 Energy Detail

5.1 Mitigation Measures Energy

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Electricity Mitigated						0.00	0.00		0.00	0.00	0.00	3,289.38	3,289.38	0.15	0.06	3,310.00
Electricity Unmitigated						0.00	0.00		0.00	0.00	0.00	3,289.38	3,289.38	0.15	0.06	3,310.00
NaturalGas Mitigated	0.24	2.09	0.96	0.01		0.00	0.17		0.00	0.17	0.00	2,404.68	2,404.68	0.05	0.04	2,419.31
NaturalGas Unmitigated	0.24	2.09	0.96	0.01		0.00	0.17		0.00	0.17	0.00	2,404.68	2,404.68	0.05	0.04	2,419.31
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

5.2 Energy by Land Use - NaturalGas

Unmitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	2.17712e+007	0.12	1.00	0.43	0.01		0.00	0.08		0.00	0.08	0.00	1,161.79	1,161.79	0.02	0.02	1,168.86
Elementary School	648804	0.00	0.03	0.03	0.00		0.00	0.00		0.00	0.00	0.00	34.62	34.62	0.00	0.00	34.83
High School	3.02799e+006	0.02	0.15	0.12	0.00		0.00	0.01		0.00	0.01	0.00	161.58	161.58	0.00	0.00	162.57
Single Family Housing	1.9614e+007	0.11	0.90	0.38	0.01		0.00	0.07		0.00	0.07	0.00	1,046.68	1,046.68	0.02	0.02	1,053.05
Total		**0.25**	**2.08**	**0.96**	**0.02**		**0.00**	**0.16**		**0.00**	**0.16**	**0.00**	**2,404.67**	**2,404.67**	**0.04**	**0.04**	**2,419.31**

Mitigated

	NaturalGas Use	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Land Use	kBTU	tons/yr										MT/yr					
City Park	0	0.00	0.00	0.00	0.00		0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Condo/Townhouse	2.17712e+007	0.12	1.00	0.43	0.01		0.00	0.08		0.00	0.08	0.00	1,161.79	1,161.79	0.02	0.02	1,168.86
Elementary School	648804	0.00	0.03	0.03	0.00		0.00	0.00		0.00	0.00	0.00	34.62	34.62	0.00	0.00	34.83
High School	3.02799e+006	0.02	0.15	0.12	0.00		0.00	0.01		0.00	0.01	0.00	161.58	161.58	0.00	0.00	162.57
Single Family Housing	1.9614e+007	0.11	0.90	0.38	0.01		0.00	0.07		0.00	0.07	0.00	1,046.68	1,046.68	0.02	0.02	1,053.05
Total		**0.25**	**2.08**	**0.96**	**0.02**		**0.00**	**0.16**		**0.00**	**0.16**	**0.00**	**2,404.67**	**2,404.67**	**0.04**	**0.04**	**2,419.31**

5.3 Energy by Land Use - Electricity

Unmitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
City Park	0					0.00	0.00	0.00	0.00
Condo/Townhouse	4.16335e+006					1,211.00	0.05	0.02	1,218.59
Elementary School	645961					187.89	0.01	0.00	189.07
High School	3.01472e+006					876.89	0.04	0.02	882.39
Single Family Housing	3.48471e+006					1,013.60	0.05	0.02	1,019.95
Total						**3,289.38**	**0.15**	**0.06**	**3,310.00**

Mitigated

	Electricity Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	kWh	tons/yr				MT/yr			
City Park	0					0.00	0.00	0.00	0.00
Condo/Townhouse	4.16335e+006					1,211.00	0.05	0.02	1,218.59
Elementary School	645961					187.89	0.01	0.00	189.07
High School	3.01472e+006					876.89	0.04	0.02	882.39
Single Family Housing	3.48471e+006					1,013.60	0.05	0.02	1,019.95
Total						**3,289.38**	**0.15**	**0.06**	**3,310.00**

6.0 Area Detail

6.1 Mitigation Measures Area

Use Low VOC Paint - Residential Interior

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr										MT/yr					
Mitigated	13.47	0.34	28.48	0.01		0.00	1.42		0.00	1.42	140.95	845.60	986.55	0.46	0.02	1,002.30
Unmitigated	13.79	0.34	28.48	0.01		0.00	1.42		0.00	1.42	140.95	845.60	986.55	0.46	0.02	1,002.30
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

6.2 Area by SubCategory

Unmitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	1.14					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Consumer Products	7.65					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	4.40	0.11	8.34	0.01		0.00	1.30		0.00	1.30	140.95	812.59	953.54	0.43	0.02	968.63
Landscaping	0.60	0.23	20.14	0.00		0.00	0.11		0.00	0.11	0.00	33.01	33.01	0.03	0.00	33.67
Total	**13.79**	**0.34**	**28.48**	**0.01**		**0.00**	**1.41**		**0.00**	**1.41**	**140.95**	**845.60**	**986.55**	**0.46**	**0.02**	**1,002.30**

Mitigated

	ROG	NOx	CO	SO2	Fugitive PM10	Exhaust PM10	PM10 Total	Fugitive PM2.5	Exhaust PM2.5	PM2.5 Total	Bio- CO2	NBio- CO2	Total CO2	CH4	N2O	CO2e
SubCategory	tons/yr										MT/yr					
Architectural Coating	0.81					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Consumer Products	7.65					0.00	0.00		0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hearth	4.40	0.11	8.34	0.01		0.00	1.30		0.00	1.30	140.95	812.59	953.54	0.43	0.02	968.63
Landscaping	0.60	0.23	20.14	0.00		0.00	0.11		0.00	0.11	0.00	33.01	33.01	0.03	0.00	33.67
Total	**13.46**	**0.34**	**28.48**	**0.01**		**0.00**	**1.41**		**0.00**	**1.41**	**140.95**	**845.60**	**986.55**	**0.46**	**0.02**	**1,002.30**

7.0 Water Detail

7.1 Mitigation Measures Water

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Category	tons/yr				MT/yr			
Mitigated					1,165.34	3.09	0.10	1,259.79
Unmitigated					1,165.34	3.09	0.10	1,259.79
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

7.2 Water by Land Use

Unmitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
City Park	0 / 155.488					502.47	0.02	0.01	505.62
Condo/Townhouse	54.9248 / 34.6265					320.54	1.69	0.05	370.64

Elementary School	2.0606 / 5.2987					24.95	0.06	0.00	26.91
High School	11.0124 / 28.3176					133.34	0.34	0.01	143.82
Single Family Housing	31.5345 / 19.8805					184.03	0.97	0.03	212.80
Total						**1,165.33**	**3.08**	**0.10**	**1,259.79**

Mitigated

	Indoor/Outdoor Use	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	Mgal	tons/yr				MT/yr			
City Park	0 / 155.488					502.47	0.02	0.01	505.62
Condo/Townhouse	54.9248 / 34.6265					320.54	1.69	0.05	370.64
Elementary School	2.0606 / 5.2987					24.95	0.06	0.00	26.91
High School	11.0124 / 28.3176					133.34	0.34	0.01	143.82
Single Family Housing	31.5345 / 19.8805					184.03	0.97	0.03	212.80
Total						**1,165.33**	**3.08**	**0.10**	**1,259.79**

8.0 Waste Detail

8.1 Mitigation Measures Waste

Category/Year

	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e

	tons/yr				MT/yr			
Mitigated					357.74	21.14	0.00	801.71
Unmitigated					357.74	21.14	0.00	801.71
Total	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**	**NA**

8.2 Waste by Land Use

Unmitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
City Park	11.22					2.28	0.13	0.00	5.10
Condo/Townhouse	387.78					78.72	4.65	0.00	176.41
Elementary School	155.13					31.49	1.86	0.00	70.57
High School	456.25					92.61	5.47	0.00	207.56
Single Family Housing	751.94					152.64	9.02	0.00	342.07
Total						**357.74**	**21.13**	**0.00**	**801.71**

Mitigated

	Waste Disposed	ROG	NOx	CO	SO2	Total CO2	CH4	N2O	CO2e
Land Use	tons	tons/yr				MT/yr			
City Park	11.22					2.28	0.13	0.00	5.10
Condo/Townhouse	387.78					78.72	4.65	0.00	176.41
Elementary School	155.13					31.49	1.86	0.00	70.57
High School	456.25					92.61	5.47	0.00	207.56

Single Family Housing	751.94					152.64	9.02	0.00	342.07
Total						**357.74**	**21.13**	**0.00**	**801.71**

9.0 Vegetation

Appendix B:
Caline4 Output

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Archibald Avenue / SR-60 Eastbound Ramp
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 0.0 PPM
SIGTH= 5. DEGREES TEMP= 4.4 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	* LINK COORDINATES (M) * X1	Y1	X2	Y2 *	TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NB External	* 17	0	17	600 *	AG	2453	1.2	0.0	20.1
B. NB Approach	* 17	600	17	753 *	AG	2453	1.4	0.0	20.1
C. NB Depart	* 17	753	17	905 *	AG	2566	1.4	0.0	20.1
D. NB External	* 17	905	17	1505 *	AG	2566	1.2	0.0	20.1
E. NB Left	* 17	600	9	753 *	AG	0	1.4	0.0	20.1
F. SB Left	* 0	905	9	753 *	AG	1076	1.4	0.0	20.1
G. SB External	* 0	1505	0	905 *	AG	2811	1.2	0.0	20.1
H. SB Approach	* 0	905	0	753 *	AG	1735	1.4	0.0	20.1
I. SB Depart	* 0	753	0	600 *	AG	2767	1.4	0.0	20.1
J. SB External	* 0	600	0	0 *	AG	2767	1.2	0.0	20.1
K. EB External	* -750	750	-150	750 *	AG	1806	1.2	0.0	10.0
L. EB Approach	* -150	750	9	750 *	AG	1032	1.4	0.0	10.0
M. EB Depart	* 9	750	167	750 *	AG	1737	1.4	0.0	10.0
N. EB External	* 167	750	767	750 *	AG	1737	1.2	0.0	10.0
O. WB External	* 767	755	167	755 *	AG	0	1.2	0.0	10.0
P. WB Approach	* 167	755	9	755 *	AG	0	1.4	0.0	10.0
Q. WB Depart	* 9	755	-150	755 *	AG	0	1.4	0.0	10.0
R. WB External	* -150	755	-750	755 *	AG	0	1.2	0.0	10.0
S. EB Left	* -150	750	9	753 *	AG	774	1.4	0.0	10.0
T. WB Left	* 167	755	9	753 *	AG	0	1.4	0.0	10.0

♀

CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Archibald Avenue / SR-60 Eastbound Ramp
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. Receptor	*	-12	744	2.0
2. Receptor	*	29	744	2.0
3. Receptor	*	29	761	2.0
4. Receptor	*	-12	761	2.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	*	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. Receptor	* 5.	* 0.5	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.1
2. Receptor	* 353.	* 0.5	*	0.0	0.0	0.2	0.0	0.0	0.0	0.1	0.0
3. Receptor	* 186.	* 0.5	*	0.1	0.2	0.0	0.0	0.0	0.0	0.0	0.0
4. Receptor	* 174.	* 0.5	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. Receptor	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
2. Receptor	*	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Receptor	*	0.0	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

4. Receptor * 0.2 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0 0.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 1

JOB: Archibald Avenue / SR-60 Westbound Ramp
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

I. SITE VARIABLES

U= 1.0 M/S Z0= 100. CM ALT= 0. (M)
BRG= WORST CASE VD= 0.0 CM/S
CLAS= 7 (G) VS= 0.0 CM/S
MIXH= 1000. M AMB= 0.0 PPM
SIGTH= 5. DEGREES TEMP= 4.4 DEGREE (C)

II. LINK VARIABLES

LINK DESCRIPTION	*	LINK COORDINATES (M) X1	Y1	X2	Y2	* TYPE	VPH	EF (G/MI)	H (M)	W (M)
A. NB External	*	17	0	17	600	* AG	2557	1.2	0.0	20.1
B. NB Approach	*	17	600	17	753	* AG	1707	1.4	0.0	20.1
C. NB Depart	*	17	753	17	905	* AG	2325	1.4	0.0	20.1
D. NB External	*	17	905	17	1505	* AG	2325	1.2	0.0	20.1
E. NB Left	*	17	600	9	753	* AG	850	1.4	0.0	20.1
F. SB Left	*	0	905	9	753	* AG	0	1.4	0.0	20.1
G. SB External	*	0	1505	0	905	* AG	3873	1.2	0.0	20.1
H. SB Approach	*	0	905	0	753	* AG	3873	1.4	0.0	20.1
I. SB Depart	*	0	753	0	600	* AG	2811	1.4	0.0	20.1
J. SB External	*	0	600	0	0	* AG	2811	1.2	0.0	20.1
K. EB External	*	-750	750	-150	750	* AG	0	1.2	0.0	10.0
L. EB Approach	*	-150	750	9	750	* AG	0	1.4	0.0	10.0
M. EB Depart	*	9	750	167	750	* AG	0	1.4	0.0	10.0
N. EB External	*	167	750	767	750	* AG	0	1.2	0.0	10.0
O. WB External	*	767	755	167	755	* AG	1052	1.2	0.0	10.0
P. WB Approach	*	167	755	9	755	* AG	618	1.4	0.0	10.0
Q. WB Depart	*	9	755	-150	755	* AG	2346	1.4	0.0	10.0
R. WB External	*	-150	755	-750	755	* AG	2346	1.2	0.0	10.0
S. EB Left	*	-150	750	9	753	* AG	0	1.4	0.0	10.0
T. WB Left	*	167	755	9	753	* AG	434	1.4	0.0	10.0

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CALINE4: CALIFORNIA LINE SOURCE DISPERSION MODEL
JUNE 1989 VERSION
PAGE 2

JOB: Archibald Avenue / SR-60 Westbound Ramp
RUN: Hour 1 (WORST CASE ANGLE)
POLLUTANT: Carbon Monoxide

III. RECEPTOR LOCATIONS

RECEPTOR	*	COORDINATES (M) X	Y	Z
1. Receptor	*	-12	744	2.0
2. Receptor	*	29	744	2.0
3. Receptor	*	29	761	2.0
4. Receptor	*	-12	761	2.0

IV. MODEL RESULTS (WORST CASE WIND ANGLE)

RECEPTOR	* BRG (DEG)	* PRED CONC (PPM)	*	CONC/LINK (PPM) A	B	C	D	E	F	G	H
1. Receptor	* 6.	* 0.6	*	0.0	0.0	0.0	0.1	0.0	0.0	0.1	0.3
2. Receptor	* 354.	* 0.4	*	0.0	0.0	0.2	0.1	0.0	0.0	0.1	0.0
3. Receptor	* 266.	* 0.5	*	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.1
4. Receptor	* 174.	* 0.5	*	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0

RECEPTOR	*	CONC/LINK (PPM) I	J	K	L	M	N	O	P	Q	R	S	T
1. Receptor	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.1	0.0	0.0	0.0
2. Receptor	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
3. Receptor	*	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0	0.0

4. Receptor * 0.2 0.1 0.0 0.0 0.0 0.0 0.0 0.0 0.1 0.0 0.0 0.0

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