Rich-Haven Specific Plan, 2022 Amendment

ENERGY ANALYSIS

CITY OF ONTARIO

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TABLE OF CONTENTS

APPENDICES

LIST OF EXHIBITS

LIST OF TABLES

LIST OF ABBREVIATED TERMS

%	Percent
(1)	Reference
AQIA	*Rich-Haven Specific Plan, 2022 Amendment Air Quality Impact Analysis*
BACM	Best Available Control Measures
BTU	British Thermal Units
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
County	County of San Bernardino
CPEP	Clean Power and Electrification Pathway
CPUC	California Public Utilities Commission
DMV	Department of Motor Vehicles
EIA	Energy Information Administration
EPA	Environmental Protection Agency
EMFAC	EMissions FACtor
FAA	Federal Aviation Administration
FERC	Federal Energy Regulatory Commission
GHG	Greenhouse Gas
GWh	Gigawatt Hour
HHDT	Heavy-Heavy Duty Trucks
hp-hr-gal	Horsepower Hours Per Gallon
IEPR	Integrated Energy Policy Report
ISO	Independent Service Operator
ISTEA	Intermodal Surface Transportation Efficiency Act
ITE	Institute of Transportation Engineers
kBTU	Thousand-British Thermal Units
kWh	Kilowatt Hour
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
LHDT1/LHDT2	Light-Heavy Duty Trucks
March ARB	March Air Reserve Base
MCY	Motorcycles

MDV	Medium Duty Trucks
MH	Motor Homes
MHDT	Medium-Heavy Duty Trucks
MMcfd	Million Cubic Feet Per Day
mpg	Miles Per Gallon
MPO	Metropolitan Planning Organization
MW	Megawatt
OBUS	Other Buses
PG&E	Pacific Gas and Electric
Project	Rich-Haven Specific Plan, 2022 Amendment
PV	Photovoltaic
SBUS	School Buses
SCAB	Southern California Air Basin
SCE	Southern California Edison
SDAB	San Diego Air Basin
SoCalGas	Southern California Gas
sf	Square Feet
TEA-21	Transportation Equity Act for the 21st Century
U.S.	United States
VMT	Vehicle Miles Traveled

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Rich-Haven Specific Plan, 2022 Amendment Project Energy Analysis* is summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the California Environmental Quality Act (CEQA) Statute and Guidelines (*CEQA Guidelines*) (1). Table ES-1 shows the findings of significance for potential energy impacts under CEQA.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Energy Impact #1: Would the Project result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation?	5.0	*Less Than Significant*	*n/a*
Energy Impact #2: Would the Project conflict with or obstruct a state or local plan for renewable energy or energy efficiency?	5.0	*Less Than Significant*	*n/a*

ES.2 PROJECT REQUIREMENTS

The Project would be required to comply with regulations imposed by federal,state, and local agencies that regulate energy use and consumption through various means and programs. Those that are directly and indirectly applicable to the Project and that would assist in the reduction of energy usage include:

- Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA)
- The Transportation Equity Act for the 21st Century (TEA-21)
- Integrated Energy Policy Report (IEPR)
- State of California Energy Plan
- California Code Title 24, Part 6, Energy Efficiency Standards
- AB 1493 Pavley Regulations and Fuel Efficiency Standards
- California's Renewables Portfolio Standard (RPS)
- Clean Energy and Pollution Reduction Act of 2015 (SB 350)
- City of Ontario, 2022 Community Climate Action Plan Update (2022 CCAP Update)

Consistency with the above regulations is discussed in detail in section 5 of this EA.

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1 INTRODUCTION

This report presents the results of the energy analysis prepared by Urban Crossroads, Inc., for the proposed Rich-Haven Specific Plan, 2022 Amendment Project (Project). The purpose of this report is to ensure that energy implication is considered by the City of Ontario, as the lead agency, and to quantify anticipated energy usage associated with construction and operation of the proposed Project, determine if the usage amounts are efficient, typical, or wasteful for the land use type, and to emphasize avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy.

1.1 BACKGROUND AND PROJECT DESCRIPTION

The Rich-Haven Specific Plan (RHSP) was approved by the City of Ontario in 2015, with subsequent Specific Plan Amendments approved in 2016, 2018, and 2021. The current (2021) Rich-Haven Specific Plan ("2021 Specific Plan") comprises approximately 584 acres located west of Interstate 15 (I-15), and south of State Route 60 (SR-60). The 2021 Specific Plan Area lies within the 8,200-acre Ontario Ranch area, bounded generally by Riverside Drive to the north, "Old" East Edison Avenue [alignment] to the south, Mill Creek Avenue and Hamner Avenue to the east, and Haven Avenue to the west. The location and boundaries of the 2022 RHSP Specific Plan Amendment evaluated herein coincide with the location and boundaries in the 2021 Specific Plan. Location of the Project is presented at Exhibit 1-A.

The 2021 Specific Plan entitlements allow for development of up to 7,194 dwelling units (all residential types), up to 990,902 square feet of commercial/office space, up to 1,183,525 square feet of light industrial uses, approximately 27 acres of public parkland, and approximately 20 acres of Southern California Edison (SCE) Parcel open space and SCE Easements. The 2022 RHSP Specific Plan Amendment (2022 Specific Plan Amendment, Project) evaluated in here proposes a new amendment of the RHSP as described herein.

Under the proposed 2022 RHSP Specific Plan Amendment, the Specific Plan Area would be developed with up to 7,194 dwelling units, up to 925,002 square feet of commercial space, and up to 2,767,148 square feet of light industrial uses. Other existing RHSP land uses, e.g., public parkland, Southern California Edison (SCE) Parcel open space and SCE Easements would not be substantively affected under the 2022 RHSP Specific Plan Amendment. This EIR evaluates potential environmental impacts of entire buildout of the Specific Plan Area that would result from the 2022 RHSP Specific Plan Amendment.

In summary, the proposed 2022 Specific Plan Amendment would result in the following primary revisions to the 2021 Specific Plan:

1. Total residential development within the Specific Plan Area would be maintained at 7,194 dwelling units. Residential units and residential densities would however be reassigned within the Specific Plan Area.
2. Total commercial development would be reduced by approximately 65,900 square feet, an approximate 6.7 percent reduction in the 2021 Specific Plan commercial entitlements.

3. Total light industrial development would be increased by approximately 1,583,623 square feet, an approximate 134 percent increase from the 2021 Specific Plan Amendment.

Other aspects and attributes of the 2021 Specific Plan would be substantively maintained under the proposed 2022 Specific Plan Amendment.

Note that portions of Planning Areas 3A and 4A within the Project site have been developed. Planning Areas 2, 3, 4A, 5C, 6, 10, and portions of 7, 8, and 9 are anticipated to be developed as part of the first phase with an anticipated Opening Year of 2024. Project Buildout and of Phase 2 is anticipated in Year 2027. Project Planning Areas and Phases are illustrated at Exhibit 1-B.

Table 1-1 presents the land uses that were assumed to be developed as part of Phase 1.

TABLE 1-1: PHASE 1 LAND USES

Land Use	Qty	Units
Business Park	316.725	TSF
High-Cube Cold Storage	454.244	TSF
High-Cube Fulfillment	1,404.417	TSF
High-Cube Transload	591.763	TSF
Multifamily (Low Rise) Residential	3,289	DU
Single Family Detached Residential	822	DU
Public Park	1.3	AC
Strip Retail	7.500	TSF
Gasoline Station	48	VFP
Shopping Center	162.137	TSF
High Turnover Restaurant	32.427	TSF
Fast Food Restaurant w/Drive Through	21.618	TSF

TSF = Thousand Square Feet
DU = Dwelling Units
AC = Acre
VFP = Vehicle Fueling Position

Table 1-2 presents the land uses that would be developed as part of Phase 2.

TABLE 1-2: PHASE 2 LAND USES

Land Use	Qty	Units
Multifamily (Low Rise) Residential	2,000	DU
Single Family Detached Residential	603	DU
Public Park	27	AC
Gasoline Station	48	VFP
Shopping Center	525.990	TSF
High Turnover Restaurant	105.198	TSF
Fast Food Restaurant w/Drive Through	70.132	TSF

TSF = Thousand Square Feet
DU = Dwelling Units
AC = Acre
VFP = Vehicle Fueling Position

According to the *Rich-Haven Specific Plan, 2022 Amendment Traffic Analysis*, at buildout following the development of Phases 1 and 2, the proposed Project is anticipated to generate a total of 95,552 two-way vehicle trips per day including 94,408 two-way passenger vehicle trips and 1,144 two-way truck trips per day (in actual vehicles) (2).

EXHIBIT 1-A: LOCATION MAP

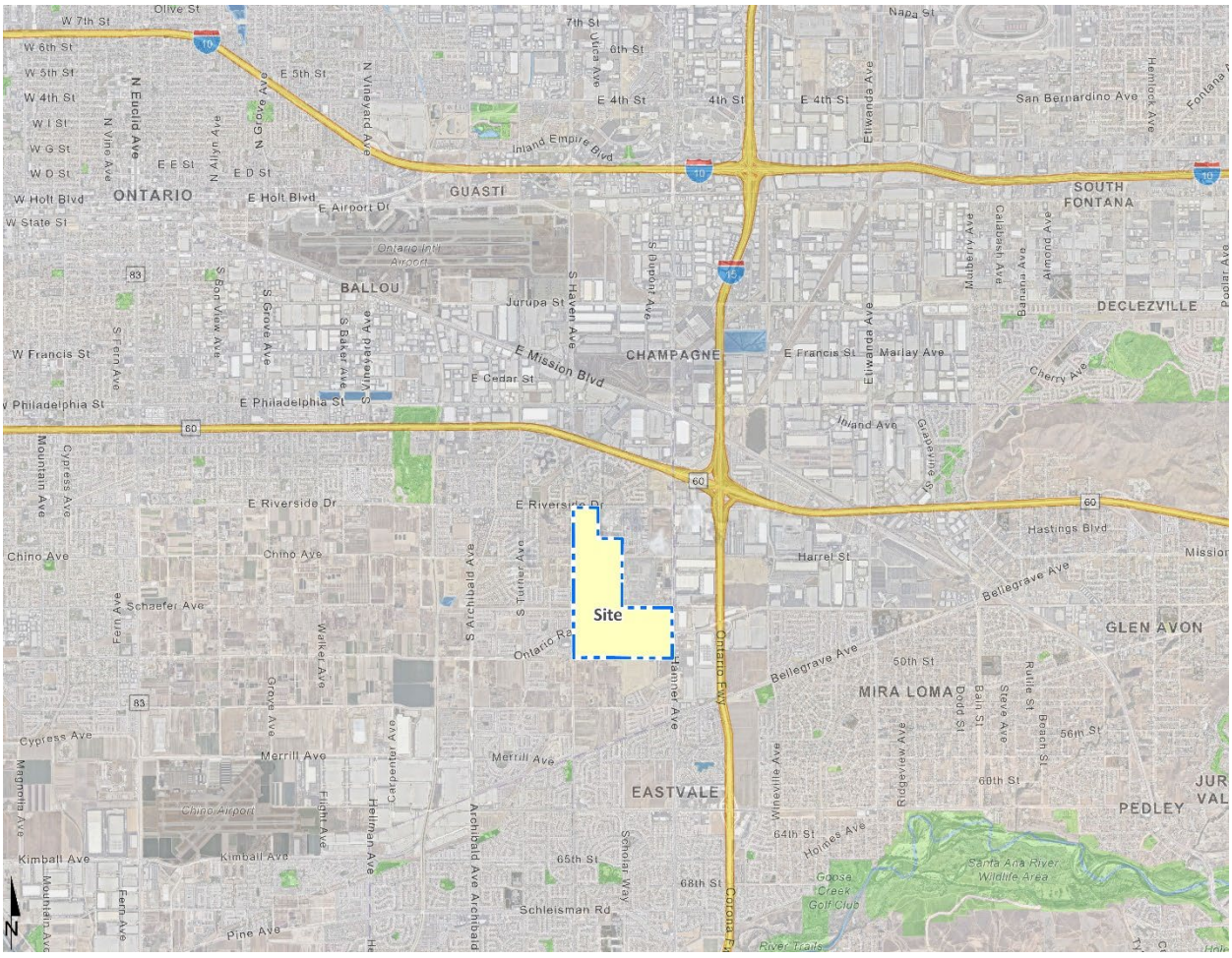
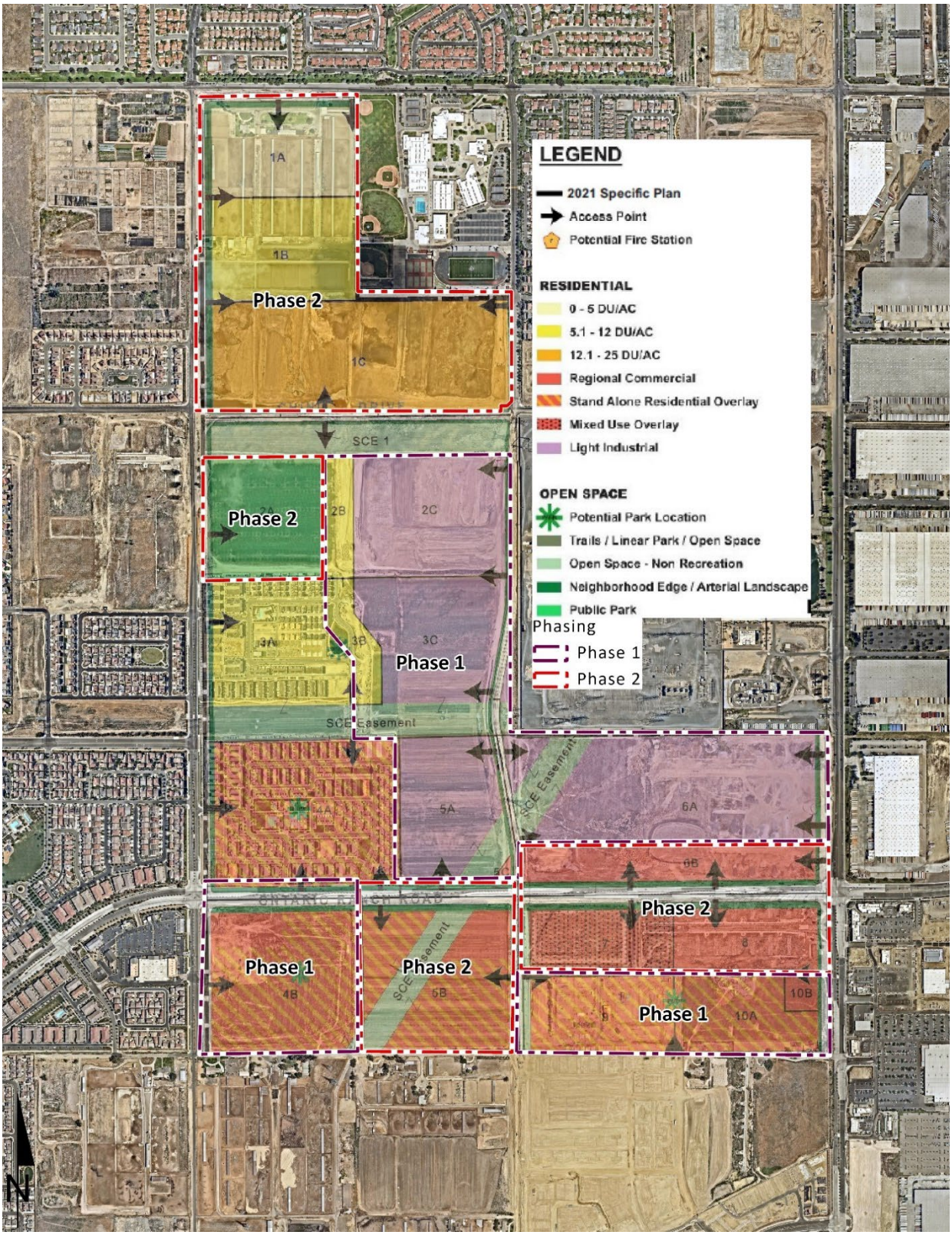


EXHIBIT 1-B: LAND USE PLAN



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2 EXISTING CONDITIONS

This section provides an overview of the existing energy conditions in the Project region.

2.1 OVERVIEW

The most recent data for California's estimated total energy consumption and natural gas consumption is from 2019, released by the United States (U.S.) Energy Information Administration's (EIA) California State Profile and Energy Estimates in 2021 and included (3):

- As of 2019, approximately 7,802 trillion British Thermal Unit (BTU) of energy was consumed
- As of 2019, approximately 662 million barrels of petroleum
- As of 2019, approximately 2,144 billion cubic feet of natural gas
- As of 2019, approximately 1 million short tons of coal

The California Energy Commission's (CEC) Transportation Energy Demand Forecast 2018-2030 was released in order to support the 2017 Integrated Energy Policy Report. The Transportation Energy Demand Forecast 2018-2030 lays out graphs and data supporting CEC's projections of California's future transportation energy demand. The projected inputs consider expected variable changes in fuel prices, income, population, and other variables. Predictions regarding fuel demand included:

- Gasoline demand in the transportation sector is expected to decline from approximately 15.8 billion gallons in 2017 to between 12.3 billion and 12.7 billion gallons in 2030 (4)
- Diesel demand in the transportation sector is expected to rise, increasing from approximately 3.7 billion diesel gallons in 2015 to approximately 4.7 billion in 2030 (4)
- Data from the Department of Energy states that approximately 3.9 billion gallons of diesel fuel were consumed in 2019 (5)

The most recent data provided by the EIA for energy use in California by demand sector is from 2018 and is reported as follows:

- Approximately 39.3% transportation
- Approximately 23.2% industrial
- Approximately 18.7% residential
- Approximately 18.9% commercial (6)

In 2020, total system electric generation for California was 272,576 gigawatt hours (GWh). California's massive electricity in-state generation system generated approximately 190,913 GWh which accounted for approximately 70% of the electricity it uses; the rest was imported from the Pacific Northwest (15%) and the U.S. Southwest (15%) (7). Natural gas is the main source for electricity generation at 42.97% of the total in-state electric generation system power as shown in Table 2-1.

TABLE 2-1: TOTAL ELECRICITY SYSTEM POWER (CALIFORNIA 2020)

Fuel Type	California In-State Generation (GWh)	Percent of California In-State Generation	Northwest Imports (GWh)	Southwest Imports (GWh)	Total Imports (GWh)	Percent of Imports	Total California Energy Mix	Total California Power Mix
Coal	317	0.17%	194	6,963	7,157	8.76%	7,474	2.74%
Natural Gas	92,298	48.35%	70	8,654	8,724	10.68%	101,022	37.06%
Oil	30	0.02%	-	-	0	0.00%	30	0.01%
Other (Waste Heat/Petroleum Coke)	384	0.20%	125	9	134	0.16%	518	0.19%
Nuclear	16,280	8.53%	672	8,481	9,154	11.21%	25,434	9.33%
Large Hydro	17,938	9.40%	14,078	1,259	15,337	18.78%	33,275	12.21%
Unspecified	-	0.00%	12,870	1,745	14,615	17.90%	14,615	5.36%
Non-Renewable and Unspecified Totals	127,248	66.65%	28,009	27,111	55,120	67.50%	182,368	66.91%
Biomass	5,680	2.97%	975	25	1,000	1.22%	6,679	2.45%
Geothermal	11,345	5.94%	166	1,825	1,991	2.44%	13,336	4.89%
Small Hydro	3,476	1.82%	320	2	322	0.39%	3,798	1.39%
Solar	29,456	15.43%	284	6,312	6,596	8.08%	36,052	13.23%
Wind	13,708	7.18%	11,438	5,197	16,635	20.37%	30,343	11.13%
Renewable Totals	63,665	33.35%	13,184	13,359	26,543	32.50%	90,208	33.09%
System Totals	***190,913***	***100.00%***	***41,193***	***40,471***	***81,663***	***100.00%***	***272,576***	***100.00%***

Source: California Energy Commission's 2020 Total System Electric Generation

An updated summary of, and context for energy consumption and energy demands within the State is presented in "U.S. Energy Information Administration, California State Profile and Energy Estimates, Quick Facts" excerpted below (8):

- California was the seventh-largest producer of crude oil among the 50 states in 2019, and, as of January 2020, it ranked third in oil refining capacity. Foreign suppliers, led by Saudi Arabia, Iraq, Ecuador, and Colombia, provided more than half of the crude oil refined in California in 2019.
- California is the largest consumer of both jet fuel and motor gasoline among the 50 states and accounted for 17% of the nation's jet fuel consumption and 11% of motor gasoline consumption in 2019. The state is the second-largest consumer of all petroleum products combined, accounting for 10% of the U.S. total. In 2018, California's energy consumption was the second highest among the states, but its per capita energy consumption was the fourth-lowest due in part to its mild climate and its energy efficiency programs.
- In 2019, California was the nation's top producer of electricity from solar, geothermal, and biomass energy and the state was second in the nation in conventional hydroelectric power generation.
- In 2019, California was the fourth largest electricity producer in the nation, but the state was also the nation's largest importer of electricity and received about 28% of its electricity supply from generating facilities outside of California, including imports from Mexico.

As indicated above, California is one of the nation's leading energy-producing states, and California's per capita energy use is among the nation's most efficient. Given the nature of the Project, the remainder of this discussion will focus on the three sources of energy that are most relevant to the Project—namely, electricity, natural gas, and transportation fuel for vehicle trips associated with the uses planned for the Project.

2.2 ELECTRICITY

The usage associated with electricity use were calculated using CalEEMod Version 2022.1. The Southern California region's electricity reliability has been of concern for the past several years due to the planned retirement of aging facilities that depend upon once-through cooling technologies, as well as the June 2013 retirement of the San Onofre Nuclear Generating Station (San Onofre). While the once-through cooling phase-out has been ongoing since the May 2010 adoption of the State Water Resources Control Board's once-through cooling policy, the retirement of San Onofre complicated the situation. California Independent Service Operator (ISO) studies revealed the extent to which the South Coast Air Basin (SCAB) and the San Diego Air Basin (SDAB) region were vulnerable to low-voltage and post-transient voltage instability concerns. A preliminary plan to address these issues was detailed in the 2013 Integrative Energy Policy Report (IEPR) after a collaborative process with other energy agencies, utilities, and air districts (9). Similarly, the subsequent 2021 IEPR's provides information and policy recommendations on advancing a clean, reliable, and affordable energy system.

California's electricity industry is an organization of traditional utilities, private generating companies, and state agencies, each with a variety of roles and responsibilities to ensure that electrical power is provided to consumers. The California ISO is a nonprofit public benefit corporation and is the impartial operator of the State's wholesale power grid and is charged with maintaining grid reliability, and to direct uninterrupted electrical energy supplies to California's homes and communities. While utilities still own transmission assets, the ISO routes electrical power along these assets, maximizing the use of the transmission system and its power generation resources. The ISO matches buyers and sellers of electricity to ensure that enough power is available to meet demand. To these ends, every five minutes the ISO forecasts electrical demands, accounts for operating reserves, and assigns the lowest cost power plant unit to meet demands while ensuring adequate system transmission capacities and capabilities (10).

Part of the ISO's charge is to plan and coordinate grid enhancements to ensure that electrical power is provided to California consumers. To this end, utilities file annual transmission expansion/modification plans to accommodate the State's growing electrical needs. The ISO reviews and either approves or denies the proposed additions. In addition, and perhaps most importantly, the ISO works with other areas in the western United States electrical grid to ensure that adequate power supplies are available to the State. In this manner, continuing reliable and affordable electrical power is assured to existing and new consumers throughout the State.

Electricity is currently provided to the Project site by Southern California Edison (SCE). SCE provides electric power to more than 15 million persons in 15 counties and in 180 incorporated cities, within a service area encompassing approximately 50,000 square miles. Based on SCE's 2018 Power Content Label Mix, SCE derives electricity from varied energy resources including: fossil fuels, hydroelectric generators, nuclear power plants, geothermal power plants, solar power generation, and wind farms. SCE also purchases from independent power producers and utilities, including out-of-state suppliers (11).

TABLE 2-2: SCE 2020 POWER CONTENT MIX

Energy Resources	2020 SCE Power Mix
Eligible Renewable	**30.9%**
Biomass & Waste	0.1%
Geothermal	5.5%
Eligible Hydroelectric	0.8%
Solar	15.1%
Wind	9.4%
Coal	**0.0%**
Large Hydroelectric	**3.3%**
Natural Gas	**15.2%**
Nuclear	**8.4%**
Other	**0.3%**
Unspecified Sources of power*	42.0%
Total	**100%**

* "Unspecified sources of power" means electricity from transactions that are not traceable to specific generation sources

2.3 NATURAL GAS

The following summary of natural gas customers and volumes, supplies, delivery of supplies, storage, service options, and operations is excerpted from information provided by the California Public Utilities Commission (CPUC).

> *"The CPUC regulates natural gas utility service for approximately 10.8 million customers that receive natural gas from Pacific Gas and Electric (PG&E), Southern California Gas (SoCalGas), San Diego Gas & Electric (SDG&E), Southwest Gas, and several smaller natural gas utilities. The CPUC also regulates independent storage operators: Lodi Gas Storage, Wild Goose Storage, Central Valley Storage and Gill Ranch Storage.*
>
> *California's natural gas utilities provide service to over 11 million gas meters. SoCalGas and PG&E provide service to about 5.9 million and 4.3 million customers, respectively, while SDG&E provides service to over 800, 000 customers. In 2018, California gas utilities forecasted that they would deliver about 4740 million cubic feet per day (MMcfd) of gas to their customers, on average, under normal weather conditions.*
>
> *The overwhelming majority of natural gas utility customers in California are residential and small commercials customers, referred to as "core" customers. Larger volume gas customers, like electric generators and industrial customers, are called "noncore" customers. Although very small in number relative to core customers, noncore customers consume about 65% of the natural gas delivered by the state's natural gas utilities, while core customers consume about 35%.*

A significant amount of gas (about 19%, or 1131 MMcfd, of the total forecasted California consumption in 2018) is also directly delivered to some California large volume consumers, without being transported over the regulated utility pipeline system. Those customers, referred to as "bypass" customers, take service directly from interstate pipelines or directly from California producers.

SDG&E and Southwest Gas' southern division are wholesale customers of SoCalGas, i.e. they receive deliveries of gas from SoCalGas and in turn deliver that gas to their own customers. (Southwest Gas also provides natural gas distribution service in the Lake Tahoe area.) Similarly, West Coast Gas, a small gas utility, is a wholesale customer of PG&E. Some other wholesale customers are municipalities like the cities of Palo Alto, Long Beach, and Vernon, which are not regulated by the CPUC.

Natural gas from out-of-state production basins is delivered into California via the interstate natural gas pipeline system. The major interstate pipelines that deliver out-of-state natural gas to California gas utilities are Gas Transmission Northwest Pipeline, Kern River Pipeline, Transwestern Pipeline, El Paso Pipeline, Ruby Pipeline, Mojave Pipeline, and Tuscarora. Another pipeline, the North Baja - Baja Norte Pipeline takes gas off the El Paso Pipeline at the California/Arizona border and delivers that gas through California into Mexico. While the Federal Energy Regulatory Commission (FERC) regulates the transportation of natural gas on the interstate pipelines, and authorizes rates for that service, the California Public Utilities Commission may participate in FERC regulatory proceedings to represent the interests of California natural gas consumers.

The gas transported to California gas utilities via the interstate pipelines, as well as some of the California-produced gas, is delivered into the PG&E and SoCalGas intrastate natural gas transmission pipelines systems (commonly referred to as California's "backbone" pipeline system). Natural gas on the utilities' backbone pipeline systems is then delivered to the local transmission and distribution pipeline systems, or to natural gas storage fields. Some large volume noncore customers take natural gas delivery directly off the high-pressure backbone and local transmission pipeline systems, while core customers and other noncore customers take delivery off the utilities' distribution pipeline systems. The state's natural gas utilities operate over 100,000 miles of transmission and distribution pipelines, and thousands more miles of service lines.

Bypass customers take most of their deliveries directly off the Kern/Mojave pipeline system, but they also take a significant amount of gas from California production.

PG&E and SoCalGas own and operate several natural gas storage fields that are located within their service territories in northern and southern California, respectively. These storage fields, and four independently owned storage utilities - Lodi Gas Storage, Wild Goose Storage, Central Valley Storage, and Gill Ranch Storage - help meet peak seasonal and daily natural gas demand and allow California natural gas customers to secure natural gas supplies more efficiently. PG&E is a 25% owner of the Gill Ranch Storage field. These storage fields provide a significant amount of infrastructure capacity to help meet

California's natural gas requirements, and without these storage fields, California would need much more pipeline capacity in order to meet peak gas requirements.

Prior to the late 1980s, California regulated utilities provided virtually all natural gas services to all their customers. Since then, the Commission has gradually restructured the California gas industry in order to give customers more options while assuring regulatory protections for those customers that wish to, or are required to, continue receiving utility-provided services.

The option to purchase natural gas from independent suppliers is one of the results of this restructuring process. Although the regulated utilities procure natural gas supplies for most core customers, core customers have the option to purchase natural gas from independent natural gas marketers, called "core transport agents" (CTA). Contact information for core transport agents can be found on the utilities' web sites. Noncore customers, on the other hand, make natural gas supply arrangements directly with producers or with marketers.

Another option resulting from the restructuring process occurred in 1993, when the Commission removed the utilities' storage service responsibility for noncore customers, along with the cost of this service from noncore customers' transportation rates. The Commission also encouraged the development of independent storage fields, and in subsequent years, all the independent storage fields in California were established. Noncore customers and marketers may now take storage service from the utility or from an independent storage provider (if available), and pay for that service, or may opt to take no storage service at all. For core customers, the Commission assures that the utility has adequate storage capacity set aside to meet core requirements, and core customers pay for that service.

In a 1997 decision, the Commission adopted PG&E's "Gas Accord", which unbundled PG&E's backbone transmission costs from noncore transportation rates. This decision gave customers and marketers the opportunity to obtain pipeline capacity rights on PG&E's backbone transmission pipeline system, if desired, and pay for that service at rates authorized by the Commission. The Gas Accord also required PG&E to set aside a certain amount of backbone transmission capacity in order to deliver gas to its core customers. Subsequent Commission decisions modified and extended the initial terms of the Gas Accord. The "Gas Accord" framework is still in place today for PG&E's backbone and storage rates and services and is now simply referred to as PG&E Gas Transmission and Storage (GT&S).

In a 2006 decision, the Commission adopted a similar gas transmission framework for Southern California, called the "firm access rights" system. SoCalGas and SDG&E implemented the firm access rights (FAR) system in 2008, and it is now referred to as the backbone transmission system (BTS) framework. As under the PG&E backbone transmission system, SoCalGas backbone transmission costs are unbundled from noncore transportation rates. Noncore customers and marketers may obtain, and pay for, firm backbone transmission capacity at various receipt points on the SoCalGas system. A

certain amount of backbone transmission capacity is obtained for core customers to assure meeting their requirements.

Many if not most noncore customers now use a marketer to provide for several of the services formerly provided by the utility. That is, a noncore customer may simply arrange for a marketer to procure its supplies, and obtain any needed storage and backbone transmission capacity, in order to assure that it will receive its needed deliveries of natural gas supplies. Core customers still mainly rely on the utilities for procurement service, but they have the option to take procurement service from a CTA. Backbone transmission and storage capacity is either set aside or obtained for core customers in amounts to assure very high levels of service.

In order properly operate their natural gas transmission pipeline and storage systems, PG&E and SoCalGas must balance the amount of gas received into the pipeline system and delivered to customers or to storage fields. Some of these utilities' storage capacity is dedicated to this service, and under most circumstances, customers do not need to precisely match their deliveries with their consumption. However, when too much or too little gas is expected to be delivered into the utilities' systems, relative to the amount being consumed, the utilities require customers to more precisely match up their deliveries with their consumption. And, if customers do not meet certain delivery requirements, they could face financial penalties. The utilities do not profit from these financial penalties - the amounts are then returned to customers as a whole. If the utilities find that they are unable to deliver all the gas that is expected to be consumed, they may even call for a curtailment of some gas deliveries. These curtailments are typically required for just the largest, noncore customers. It has been many years since there has been a significant curtailment of core customers in California." (12)

As indicated in the preceding discussions, natural gas is available from a variety of in-state and out-of-state sources and is provided throughout the state in response to market supply and demand. Complementing available natural gas resources, biogas may soon be available via existing delivery systems, thereby increasing the availability and reliability of resources in total. The CPUC oversees utility purchases and transmission of natural gas to ensure reliable and affordable natural gas deliveries to existing and new consumers throughout the State.

Based on information provided by the Project applicant, no natural gas would be used as a result of the project, and as such use of natural gas is not considered in the analysis.

2.4 TRANSPORTATION ENERGY RESOURCES

The Project would generate additional vehicle trips with resulting consumption of energy resources, predominantly gasoline and diesel fuel. The Department of Motor Vehicles (DMV) identified 35.8 million registered vehicles in California (13), and those vehicles consume an estimated 17.4 billion gallons of fuel each year[1]. Gasoline (and other vehicle fuels) are

[1] Fuel consumptions estimated utilizing information from EMFAC2021.

commercially provided commodities and would be available to the Project patrons and employees via commercial outlets.

California's on-road transportation system includes 394,383 land miles, more than 26.4 million passenger vehicles and light trucks, and almost 8.8 million medium- and heavy-duty vehicles (13). While gasoline consumption has been declining since 2008 it is still by far the dominant fuel. California is the second-largest consumer of petroleum products, after Texas, and accounts for 10% of the nation's total consumption. The state is the largest U.S. consumer of motor gasoline and jet fuel, and 85% of the petroleum consumed in California is used in the transportation sector (14).

California accounts for less than 1% of total U.S. natural gas reserves and production. As with crude oil, California's natural gas production has experienced a gradual decline since 1985. In 2019, about 37% of the natural gas delivered to consumers went to the state's industrial sector, and about 28% was delivered to the electric power sector. Natural gas fueled more than two-fifths of the state's utility-scale electricity generation in 2019. The residential sector, where two-thirds of California households use natural gas for home heating, accounted for 22% of natural gas deliveries. The commercial sector received 12% of the deliveries to end users and the transportation sector consumed the remaining 1% (14).

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3 REGULATORY BACKGROUND

Federal and state agencies regulate energy use and consumption through various means and programs. On the federal level, the United States Department of Transportation, the United States Department of Energy, and the United States Environmental Protection Agency (EPA) are three federal agencies with substantial influence over energy policies and programs. On the state level, the CPUC and the CEC are two agencies with authority over different aspects of energy. Relevant federal and state energy-related laws and plans are summarized below.

3.1 FEDERAL REGULATIONS

3.1.1 INTERMODAL SURFACE TRANSPORTATION EFFICIENCY ACT OF 1991 (ISTEA)

ISTEA promoted the development of inter-modal transportation systems to maximize mobility as well as address national and local interests in air quality and energy. ISTEA contained factors that Metropolitan Planning Organizations (MPOs) were to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, MPOs adopted explicit policies defining the social, economic, energy, and environmental values guiding transportation decisions.

3.1.2 THE TRANSPORTATION EQUITY ACT FOR THE 21ST CENTURY (TEA-21)

TEA-21 was signed into law in 1998 and builds upon the initiatives established in the ISTEA legislation, discussed above. TEA-21 authorizes highway, highway safety, transit, and other efficient surface transportation programs. TEA-21 continues the program structure established for highways and transit under ISTEA, such as flexibility in the use of funds, emphasis on measures to improve the environment, and focus on a strong planning process as the foundation of good transportation decisions. TEA-21 also provides for investment in research and its application to maximize the performance of the transportation system through, for example, deployment of Intelligent Transportation Systems, to help improve operations and management of transportation systems and vehicle safety.

3.2 CALIFORNIA REGULATIONS

3.2.1 INTEGRATED ENERGY POLICY REPORT (IEPR)

Senate Bill 1389 (Bowen, Chapter 568, Statutes of 2002) requires the CEC to prepare a biennial integrated energy policy report that assesses major energy trends and issues facing the state's electricity, natural gas, and transportation fuel sectors and provides policy recommendations to conserve resources; protect the environment; ensure reliable, secure, and diverse energy supplies; enhance the state's economy; and protect public health and safety (Public Resources Code § 25301[a]). The CEC prepares these assessments and associated policy recommendations every two years, with updates in alternate years, as part of the Integrated Energy Policy Report.

The 2021 IEPR was adopted February 22, 2022, and continues to work towards improving electricity, natural gas, and transportation fuel energy use in California. The 2021 IEPR provides

the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs. Additionally, the 2021 IEPR provides the results of the CEC's assessments of a variety of energy issues facing California. Many of these issues will require action if the state is to meet its climate, energy, air quality, and other environmental goals while maintaining reliability and controlling costs (15).

3.2.2 State of California Energy Plan

The CEC is responsible for preparing the State Energy Plan, which identifies emerging trends related to energy supply, demand, conservation, public health and safety, and the maintenance of a healthy economy. The Plan calls for the state to assist in the transformation of the transportation system to improve air quality, reduce congestion, and increase the efficient use of fuel supplies with the least environmental and energy costs. To further this policy, the plan identifies several strategies, including assistance to public agencies and fleet operators and encouragement of urban designs that reduce vehicle miles traveled (VMT) and accommodate pedestrian and bicycle access.

3.2.3 California Code Title 24, Part 6, Energy Efficiency Standards

California Code of Regulations (CCR) 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. Energy efficient buildings require less electricity; therefore, increased energy efficiency reduces fossil fuel consumption and decreases GHG emissions. The 2019 version of Title 24 was adopted by the CEC and became effective on January 1, 2020. The 2019 Title 24 standards are applicable to building permit applications submitted on or after January 1, 2020. The 2019 Title 24 standards require solar PV systems for new homes, establish requirements for newly constructed healthcare facilities, encourage demand responsive technologies for residential buildings, and update indoor and outdoor lighting standards for nonresidential buildings. The CEC anticipates that single-family homes built with the 2019 standards would use approximately 7% less energy compared to the residential homes built under the 2016 standards. Additionally, after implementation of solar PV systems, homes built under the 2019 standards would use about 53% less energy than homes built under the 2016 standards. Nonresidential buildings would use approximately 30% less energy due to lighting upgrades compared to the prior code (16).

3.2.4 AB 1493 Pavley Regulations and Fuel Efficiency Standards

California AB 1493, enacted on July 22, 2002, required CARB to develop and adopt regulations that reduce GHGs emitted by passenger vehicles and light duty trucks. Under this legislation, CARB adopted regulations to reduce GHG emissions from non-commercial passenger vehicles (cars and light-duty trucks). Although aimed at reducing GHG emissions, specifically, a co-benefit of the Pavley standards is an improvement in fuel efficiency and consequently a reduction in fuel consumption.

3.2.5 CALIFORNIA'S RENEWABLES PORTFOLIO STANDARD (RPS)

First established in 2002 under Senate Bill (SB) 1078, California's Renewables Portfolio Standards (RPS) required retail sellers of electric services to increase procurement from eligible renewable resources to 20% of total retail sales by 2017 (17). The program was accelerated in 2015 with SB 350 which mandated a 50% RPS by 2030. SB 350 includes interim annual RPS targets with three-year compliance periods and requires 65% of RPS procurement to be derived from long-term contracts of 10 or more years. In 2018, SB 100 was signed into law, which increases the RPS to 60% by 2030 and requires all the state's electricity to come from carbon-free resources by 2045 (17).

3.2.6 CLEAN ENERGY AND POLLUTION REDUCTION ACT OF 2015 (SB 350)

In October 2015, the legislature approved, and the Governor signed SB 350, which reaffirms California's commitment to reducing its GHG emissions and addressing climate change. Key provisions include an increase in the RPS discussed above, higher energy efficiency requirements for buildings, initial strategies towards a regional electricity grid, and improved infrastructure for electric vehicle charging stations. Specifically, SB 350 requires the following to reduce statewide GHG emissions:

- Increase the amount of electricity procured from renewable energy sources from 33% to 50% by 2030, with interim targets of 40% by 2024, and 25% by 2027.
- Double the energy efficiency in existing buildings by 2030. This target will be achieved through the CPUC, the CEC, and local publicly owned utilities.
- Reorganize the ISO to develop more regional electricity transmission markets and to improve accessibility in these markets, which will facilitate the growth of renewable energy markets in the western United States (California Leginfo 2015).

3.3 CITY OF ONTARIO, 2022 CCAP UPDATE

Energy efficiency performance standards are provided in the City of Ontario, 2022 CCAP Update. Performance standards applicable to the Project are presented below:

TABLE 3-1: EXAMPLE CAP SCREENING TABLE MEASURES

Feature	Description	Assigned Point Values	Project Point Values
Reduction Measure PS E1: Residential Energy Efficiency			
Building Envelope			
Insulation	Enhanced Insulation (rigid wall insulation R-13; roof/attic: R-38)	15	15
Windows	Enhanced Window Insulation (0.32 U-Factor, 0.25 SHGC)	7	7
Cool Roof	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	12	12
Heating/Cooling	Modest duct insulation (R-6)	7	7

Feature	Description	Assigned Point Values	Project Point Values
Distribution System	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	12	12
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	9	9
Water Heaters	Very High Efficiency Water Heater (0.92 energy factor)	18	18
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	12	12
Reduction Measure PS W1: Residential Water Conservation			
Potable Water			
Showers	Water Efficient Showerheads (2.0 gpm)	3	3
Toilets	Water Efficient Toilets (1.5 gpm)	3	3
Faucets	Water Efficient Faucets	3	3
	Total Points Earned by Residential Project:		**101**

TABLE 3-2: EXAMPLE CAP SCREENING TABLE MEASURES (COMMERCIAL & INDUSTRIAL)

Feature	Description	Assigned Point Values	Project Point Values
Reduction Measure PS E3: Commercial/Industrial Energy Efficiency			
Building Envelope			
Insulation	Enhanced Insulation (rigid wall insulation R-13; roof/attic: R-38)	18	18
Windows	Enhanced Window Insulation (0.32 U-Factor, 0.25 SHGC)	8	8
Cool Roof	Enhanced Cool Roof (CRRC Rated 0.2 aged solar reflectance, 0.75 thermal emittance)	14	14
Heating/Cooling Distribution System	Modest duct insulation (R-6)	8	8
	Distribution loss reduction with inspection (HERS Verified Duct Leakage or equivalent)	14	14
Space Heating/Cooling Equipment	Very High Efficiency HVAC (SEER 16/80% AFUE or 9 HSPF)	12	12
Water Heaters	Very High Efficiency Water Heater (0.92 energy factor)	19	19
Artificial Lighting	Very High Efficiency Lights (100% of in-unit fixtures are high efficacy)	14	14
	Total Points Earned by Commercial/Industrial Project:		**107**

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4 PROJECT ENERGY DEMANDS AND ENERGY EFFICIENCY MEASURES

4.1 EVALUATION CRITERIA

In compliance with Appendix G of the *State CEQA Guidelines* (1), this report analyzes the Project's anticipated energy use during construction and operations to determine if the Project would:

- Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
- Conflict with or obstruct a state or local plan for renewable energy or energy efficiency

In addition, Appendix F of the *State CEQA Guidelines* (18) states that the means of achieving the goal of energy conservation include the following:

- Decreasing overall per capita energy consumption;
- Decreasing reliance on fossil fuels such as coal, natural gas and oil; and
- Increasing reliance on renewable energy sources.

4.2 METHODOLOGY

Information from the CalEEMod Version 2022.1 outputs for the *Rich-Haven Specific Plan, 2022 Amendment Air Quality Impact Analysis* (Urban Crossroads, Inc.) (AQIA) (19) was utilized in this analysis, detailing Project-related construction equipment, transportation energy demands, and facility energy demands.

4.2.1 CALEEMOD

In May 2022, the SCAQMD, in conjunction with the California Air Pollution Control Officers Association (CAPCOA) and other California air districts, released the latest version of the CalEEMod Version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutants and GHG emissions from direct and indirect sources as well as energy usage (20). Accordingly, the latest version of CalEEMod has been used to determine the proposed Project's anticipated transportation and facility energy demands. Outputs from the annual construction and operational model runs are provided in Appendices 4.1 through 4.2.

4.2.2 EMISSION FACTORS MODEL

On May 2, 2022, the EPA approved the 2021 version of the EMissions FACtor model (EMFAC2021) web database for use in State Implementation Plan and transportation conformity analyses. EMFAC2021 is a mathematical model that was developed to calculate emission rates, fuel consumption, VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (21). This energy study utilizes the different fuel types for each vehicle class from the annual EMFAC2021 emission inventory in order to derive the average vehicle fuel economy which is then used to determine the estimated annual fuel consumption associated with vehicle usage during Project construction and operational activities. For purposes of

analysis, the 2022 through 2025 analysis years were utilized to determine the average vehicle fuel economy used throughout the duration of the Project.

4.2.3 CONSTRUCTION DURATION

Construction is expected to commence in January 2023 and will end in December 2026. The construction schedule utilized in the analysis, shown in Table 4-1, represents a "worst-case" analysis scenario. Should construction occur any time after the respective dates, impacts would be reduced since emission factors for construction decrease as time passes due to emission regulations becoming more stringent[2]. The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (22).

TABLE 4-1: CONSTRUCTION DURATION

Phase	Construction Activity	Start Date	End Date	Days
Phase 1	Site Preparation	1/1/2023	4/30/2023	85
	Grading	5/1/2023	11/30/2023	154
	Building Construction	12/1/2023	12/31/2024	283
	Paving	9/1/2024	12/31/2024	87
	Architectural Coating	2/1/2024	12/31/2024	239
Phase 2	Demolition	1/1/2024	3/31/2024	65
	Site Preparation	4/1/2024	8/31/2024	110
	Grading	9/1/2024	4/30/2025	173
	Building Construction	5/1/2025	12/31/2026	436
	Paving	9/1/2026	12/31/2026	88
	Architectural Coating	6/1/2026	12/31/2026	154

4.2.4 CONSTRUCTION EQUIPMENT

Site specific construction fleet may vary due to specific project needs at the time of construction. A detailed summary of construction equipment assumptions by phase is provided at Table 4-2.

TABLE 4-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Phase	Construction Activity	Equipment	Amount	Hours Per Day
Phase 1	Site Preparation	Rubber Tired Dozers	9	8
		Crawler Tractors	12	8

[2] As shown in the CalEEMod User's Guide Version 2020.4.0, Section 4.3 "OFFROAD Equipment" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

Phase	Construction Activity	Equipment	Amount	Hours Per Day
	Grading	Excavators	6	8
		Graders	3	8
		Rubber Tired Dozers	3	8
		Scrapers	6	8
		Crawler Tractors	6	8
	Building Construction	Cranes	3	8
		Forklifts	9	8
		Generator Sets	3	8
		Tractors/Loaders/Backhoes	9	8
		Welders	3	8
	Paving	Pavers	6	8
		Paving Equipment	6	8
		Rollers	6	8
	Architectural Coating	Air Compressors	3	8
Phase 2	Demolition	Concrete/Industrial Saws	3	8
		Excavators	9	8
		Rubber Tired Dozers	6	8
	Site Preparation	Rubber Tired Dozers	9	8
		Crawler Tractors	12	8
	Grading	Excavators	6	8
		Graders	3	8
		Rubber Tired Dozers	3	8
		Scrapers	6	8
		Crawler Tractors	6	8
	Building Construction	Cranes	3	8
		Forklifts	9	8
		Generator Sets	3	8
		Tractors/Loaders/Backhoes	9	8
		Welders	3	8
	Paving	Pavers	6	8
		Paving Equipment	6	8
		Rollers	6	8

Phase	Construction Activity	Equipment	Amount	Hours Per Day
	Architectural Coating	Air Compressors	3	8

4.3 CONSTRUCTION ENERGY DEMANDS

4.3.1 CONSTRUCTION POWER COST AND ELECTRICITY USAGE

The focus within this section is the energy implications of the construction process, specifically the power cost from on-site electricity consumption during construction of the proposed Project. The *2022 National Construction Estimator* identifies a typical power cost per 1,000 sf of construction per month of $2.41, which was used to calculate the Project's total construction power cost (23).

Based on information provided in the AQIA, construction activities are anticipated to occur over the course of 24 months for Phase 1 and 48 months for Phase 2 (19). Based on Table 4-3, the total power cost of the on-site electricity usage during the construction of the Project is estimated to be approximately $1,491,006.81.

TABLE 4-3: CONSTRUCTION POWER COST

Phase	Land Use	Power Cost (per 1,000 SF of building per month of construction)	Total Building Size (1,000 SF)	Construction Duration (months)	Total Project Construction Power Cost
1	Business Park	$2.41	316.725	24	$18,319.37
	High-Cube Cold Storage	$2.41	454.243	24	$26,273.42
	High-Cube Fulfillment	$2.41	1,404.417	24	$81,231.48
	High-Cube Transload	$2.41	591.763	24	$34,227.57
	Single Family Housing	$2.41	1,602.900	24	$92,711.74
	Multi-Family Housing	$2.41	3,486.340	24	$201,649.91
	Public Park	$2.41	56.628	24	$3,275.36
	Parking Lot	$2.41	2,526.480	24	$146,131.60
	Strip Retail	$2.41	7.500	24	$433.80
	Shopping Center	$2.41	162.137	24	$9,378.00
	High Turnover Restaurant	$2.41	32.427	24	$1,875.58
	Gasoline Service Station	$2.41	6.776	24	$391.92
	Fast Food Restaurant	$2.41	21.618	24	$1,250.39
2	Single Family Housing	$2.41	1,175.850	48	$136,022.33
	Multi-Family Housing	$2.41	2,120.000	48	$245,241.60
	Shopping Center	$2.41	525.990	48	$60,846.52
	High Turnover Restaurant	$2.41	105.198	48	$12,169.30
	Fast Food Restaurant	$2.41	70.132	48	$8,112.87

Phase	Land Use	Power Cost (per 1,000 SF of building per month of construction)	Total Building Size (1,000 SF)	Construction Duration (months)	Total Project Construction Power Cost
	Gasoline Service Station	$2.41	6.776	48	$783.85
	Public Park	$2.41	1,176.120	48	$136,053.56
	Parking Lot	$2.41	2,374.020	48	$274,626.63
TOTAL PROJECT CONSTRUCTION COST					***$1,491,006.81***

SCE's general service rate schedule was used to determine the Project's electrical usage. As of January 1, 2022, SCE's general service rate is $0.13 per kilowatt hours (kWh) of electricity for industrial services (24). As shown on Table 4-3, the total electricity usage from on-site Project construction related activities is estimated to be approximately 11,310,591 kWh.

TABLE 4-4: CONSTRUCTION ELECTRICITY USAGE

Phase	Land Use	Cost per kWh	Total Project Construction Electricity Usage (kWh)
1	Business Park	$0.13	139,078
	High-Cube Cold Storage	$0.13	199,464
	High-Cube Fulfillment	$0.13	616,698
	High-Cube Transload	$0.13	259,851
	Single Family Housing	$0.13	703,855
	Multi-Family Housing	$0.13	1,530,898
	Public Park	$0.13	24,866
	Parking Lot	$0.13	1,109,411
	Strip Retail	$0.13	3,293
	Shopping Center	$0.13	71,197
	High Turnover Restaurant	$0.13	14,239
	Fast Food Restaurant	$0.13	9,493
2	Single Family Housing	$0.13	1,032,663
	Multi-Family Housing	$0.13	1,861,840
	Shopping Center	$0.13	461,938
	High Turnover Restaurant	$0.13	92,388
	Fast Food Restaurant	$0.13	61,592
	Public Park	$0.13	1,032,900
	Parking Lot	$0.13	2,084,927
TOTAL PROJECT CONSTRUCTION ELECTRICTY USAGE (kWh)			***11,310,591***

4.3.2 CONSTRUCTION EQUIPMENT FUEL ESTIMATES

Fuel consumed by construction equipment would be the primary energy resource expended over the course of Project construction. Project construction activity timeline estimates, construction equipment schedules, equipment power ratings, load factors, and associated fuel consumption estimates are presented in Table 4-5. Eight-hour daily use of all equipment is assumed. The aggregate fuel consumption rate for all equipment is estimated at 18.5 horsepower hour per gallon (hp-hr-gal.), obtained from CARB 2018 Emissions Factors Tables and cited fuel consumption rate factors presented in Table D-24 of the Moyer guidelines (25). For the purposes of this analysis, the calculations are based on all construction equipment being diesel-powered which is consistent with industry standards. Diesel fuel would be supplied by existing commercial fuel providers serving the region[3]. As presented in Table 4-5, Project construction activities would consume an estimated 792,643 gallons of diesel fuel.

[3] Based on Appendix A of the CalEEMod User's Guide, Construction consists of several types of off-road equipment. Since the majority of the off-road construction equipment used for construction projects are diesel fueled, CalEEMod assumes all of the equipment operates on diesel fuel.

TABLE 4-5: CONSTRUCTION EQUIPMENT FUEL CONSUMPTION ESTIMATES

Activity/Duration	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
Phase 1								
Site Preparation	85	Rubber Tired Dozers	367	9	8	0.4	10,570	48,563
		Crawler Tractors	87	12	8	0.43	3,591	16,501
Grading	154	Excavators	36	6	8	0.38	657	5,466
		Graders	148	3	8	0.41	1,456	12,123
		Rubber Tired Dozers	367	3	8	0.4	3,523	29,328
		Scrapers	423	6	8	0.48	9,746	81,128
		Crawler Tractors	87	6	8	0.43	1,796	14,948
Building Construction	283	Cranes	367	3	8	0.29	2,554	39,074
		Forklifts	82	9	8	0.2	1,181	18,063
		Generator Sets	14	3	8	0.74	249	3,804
		Tractors/Loaders/Backhoes	84	9	8	0.37	2,238	34,232
		Welders	46	3	8	0.45	497	7,600
Paving	87	Pavers	81	6	8	0.42	1,633	7,679
		Paving Equipment	89	6	8	0.36	1,538	7,232
		Rollers	36	6	8	0.38	657	3,088
Architectural Coating	239	Air Compressors	37	3	8	0.48	426	5,507
Phase 2								
Demolition	65	Concrete/Industrial Saws	367	3	8	0.73	6,430	22,591
		Excavators	87	9	8	0.38	2,380	8,363
		Rubber Tired Dozers	36	6	8	0.4	691	2,429
Site Preparation	110	Rubber Tired Dozers	367	9	8	0.4	10,570	62,846
		Crawler Tractors	87	12	8	0.43	3,591	21,354
Grading	173	Excavators	36	6	8	0.38	657	6,140

Activity/Duration	Duration (Days)	Equipment	HP Rating	Quantity	Usage Hours	Load Factor	HP-hrs/day	Total Fuel Consumption (gal. diesel fuel)
		Graders	148	3	8	0.41	1,456	13,619
		Rubber Tired Dozers	367	3	8	0.4	3,523	32,947
		Scrapers	423	6	8	0.48	9,746	91,138
		Crawler Tractors	87	6	8	0.43	1,796	16,792
Building Construction	436	Cranes	367	3	8	0.29	2,554	60,199
		Forkilifts	82	9	8	0.2	1,181	27,829
		Generator Sets	14	3	8	0.74	249	5,860
		Tractors/Loaders/Backhoes	84	9	8	0.37	2,238	52,739
		Welders	46	3	8	0.45	497	11,708
Paving	88	Pavers	81	6	8	0.42	1,633	7,768
		Paving Equipment	89	6	8	0.36	1,538	7,316
		Rollers	36	6	8	0.38	657	3,123
Architectural Coating	154	Air Compressors	37	3	8	0.48	426	3,548
CONSTRUCTION FUEL DEMAND (GALLONS DIESEL FUEL)								***792,643***

Project construction would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

4.3.3 ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, and vendors commuting to and from the site. The number of worker and vendor trips are presented below in Table 4-6.

TABLE 4-6: CONSTRUCTION TRIPS AND VMT

Phase	Construction Activity	Worker Trips Per Day	Vendor Trips Per Day
Phase 1	Mass Grading	83	114
	Blasting & Rock Handling	28	114
Phase 2	Remedial Grading	48	38
	Building Construction	1,902	352
	Architectural Coating	380	176
	Paving	30	24

4.3.4 CONSTRUCTION WORKER FUEL ESTIMATES

With respect to estimated VMT for the Project, the construction worker trips would generate an estimated 40,874,622 VMT during the 72 months of construction (19). Based on CalEEMod methodology, it is assumed that 50% of all vendor trips are from light-duty-auto vehicles (LDA), 25% are from light-duty-trucks (LDT1[4]), and 25% are from light-duty-trucks (LDT2[5]). Data regarding Project related construction worker trips were based on CalEEMod defaults utilized within the AQIA.

Vehicle fuel efficiencies for LDA, LDT1, and LDT2 were estimated using information generated within the 2021 version of the EMFAC developed by CARB. EMFAC2021 is a mathematical model that was developed to calculate emission rates, fuel consumption, and VMT from motor vehicles that operate on highways, freeways, and local roads in California and is commonly used by the CARB to project changes in future emissions from on-road mobile sources (21). EMFAC2021 was run for the LDA, LDT1, and LDT2 vehicle class within the San Bernardino County sub-area for the 2023 through 2026 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

Table 4-7 provides the estimated annual fuel consumption from Project construction worker trips. Based on Table 4-7, it is estimated that 1,455,871 gallons of fuel will be consumed related to construction worker trips during full construction of the Project.

[4] Vehicles under the LDT1 category have a gross vehicle weight rating (GVWR) of less than 6,000 lbs. and equivalent test weight (ETW) of less than or equal to 3,750 lbs.

[5] Vehicles under the LDT2 category have a GVWR of less than 6,000 lbs. and ETW between 3,751 lbs. and 5,750 lbs.

TABLE 4-7: CONSTRUCTION WORKER FUEL CONSUMPTION ESTIMATES

Year	Phase	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023	LDA							
	Phase 1	Site Preparation	85	27	18.5	41,671	30.68	1,358
		Grading	154	30	18.5	85,470	30.68	2,785
		Building Construction	21	1,937	18.5	752,525	30.68	24,525
	LDT1							
	Phase 1	Site Preparation	85	13	18.5	20,836	24.14	863
		Grading	154	15	18.5	42,735	24.14	1,770
		Building Construction	21	969	18.5	376,262	24.14	15,588
	LDT2							
	Phase 1	Site Preparation	85	13	18.5	20,836	23.82	875
		Grading	154	15	18.5	42,735	23.82	1,794
		Building Construction	21	969	18.5	376,262	23.82	15,797
2024	LDA							
	Phase 1	Building Construction	262	1,937	18.5	9,388,639	31.57	297,358
		Paving	87	23	18.5	36,214	31.57	1,147
		Architectural Coating	239	387	18.5	1,711,121	31.57	54,195
	Phase 2	Demolition	65	23	18.5	27,056	31.57	857
		Site Preparation	110	27	18.5	53,928	31.57	1,708
		Grading	87	30	18.5	48,285	31.57	1,529
	LDT1							
	Phase 1	Building Construction	262	969	18.5	4,694,320	24.59	190,888
		Paving	87	11	18.5	18,107	24.59	736
		Architectural Coating	239	194	18.5	855,560	24.59	34,790
	Phase 2	Demolition	65	11	18.5	13,528	24.59	550
		Site Preparation	110	13	18.5	26,964	24.59	1,096

Year	Phase	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
		Grading	87	15	18.5	24,143	24.59	982
	LDT2							
	Phase 1	Building Construction	262	969	18.5	4,694,320	24.51	191,559
		Paving	87	11	18.5	18,107	24.51	739
		Architectural Coating	239	194	18.5	855,560	24.51	34,912
	Phase 2	Demolition	65	11	18.5	13,528	24.51	552
		Site Preparation	110	13	18.5	26,964	24.51	1,100
		Grading	87	15	18.5	24,143	24.51	985
2025	LDA							
	Phase 2	Grading	86	30	18.5	47,730	32.57	1,466
		Building Construction	175	951	18.5	3,077,244	32.57	94,489
	LDT1							
	Phase 2	Grading	86	15	18.5	23,865	25.11	950
		Building Construction	175	475	18.5	1,538,622	25.11	61,265
	LDT2							
	Phase 2	Grading	86	15	18.5	23,865	25.24	946
		Building Construction	175	475	18.5	1,538,622	25.24	60,963
2026	LDA							
	Phase 2	Building Construction	261	951	18.5	4,589,489	33.47	137,104
		Paving	88	23	18.5	36,630	33.47	1,094
		Architectural Coating	154	190	18.5	541,310	33.47	16,171
	LDT1							
	Phase 2	Building Construction	261	475	18.5	2,294,745	25.64	89,483
		Paving	88	11	18.5	18,315	25.64	714
		Architectural Coating	154	95	18.5	270,655	25.64	10,554
	LDT2							
	Phase 2	Building Construction	261	475	18.5	2,294,745	25.93	88,488

Year	Phase	Construction Activity	Duration (Days)	Worker Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
		Paving	88	11	18.5	18,315	25.93	706
		Architectural Coating	154	95	18.5	270,655	25.93	10,437
TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION								***1,455,871***

It should be noted that construction worker trips would represent a "single-event" gasoline fuel demand and would not require on-going or permanent commitment of fuel resources for this purpose.

4.3.5 CONSTRUCTION VENDOR FUEL ESTIMATES

With respect to estimated VMT, the construction vendor trips (vehicles that deliver materials to the site during construction) would generate an estimated 2,296,976 VMT along area roadways for the Project over the duration of construction activity (19). It is assumed that 50% of all vendor trips are from medium-heavy duty trucks (MHDT) and 50% are from heavy-heavy duty trucks (HHDT). These assumptions are consistent with the CalEEMod defaults utilized within the within the AQIA (19). Vehicle fuel efficiencies for MHDTs and HHDTs were estimated using information generated within EMFAC2021. EMFAC2021 was run for the MHDT and HHDT vehicle classes within the San Bernardino County sub-area for the 2023 through 2027 calendar years. Data from EMFAC2021 is shown in Appendix 4.3.

Based on Table 4-8, it is estimated that 325,768 gallons of fuel will be consumed related to construction vendor and hauling trips (MHDTs and HHDTs) during full construction of the Project.

It should be noted that Project construction vendor trips would represent a "single-event" diesel fuel demand and would not require on-going or permanent commitment of diesel fuel resources for this purpose.

TABLE 4-8: CONSTRUCTION VENDOR AND HAULING FUEL CONSUMPTION ESTIMATES

Year	Phase	Construction Activity	Duration (Days)	Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
2023	MHDT							
	Phase 1	Site Preparation	85	76	10.2	65,892	8.30	7,941
		Grading	154	138	10.2	215,985	8.30	26,031
		Building Construction	21	253	10.2	54,086	8.30	6,518
	HHDT (Vendor)							
	Phase 1	Site Preparation	85	76	10.2	65,892	5.94	11,091
		Grading	154	138	10.2	215,985	5.94	36,354
		Building Construction	21	253	10.2	54,086	5.94	9,104
2024	MHDT							
	Phase 1	Building Construction	262	76	10.2	203,102	8.34	24,349
	Phase 2	Demolition	65	17	10.2	10,940	8.34	1,312
		Site Preparation	110	28	10.2	30,855	8.34	3,699
		Grading	87	44	10.2	38,602	8.34	4,628
	HHDT (Vendor)							
	Phase 1	Building Construction	262	76	10.2	203,102	6.03	33,708
	Phase 2	Demolition	65	17	10.2	10,940	6.03	1,816
		Site Preparation	110	28	10.2	30,855	6.03	5,121
		Grading	87	44	10.2	38,602	6.03	6,407
	HHDT (Hauling)							
	Phase 2	Demolition	65	6	20	7,800	6.03	1,295
2025	MHDT							
	Phase 2	Grading	86	44	10.2	38,158	8.46	4,512
		Building Construction	175	110	10.2	195,458	8.46	23,110
	HHDT (Vendor)							
		Grading	86	44	10.2	38,158	6.13	6,225

Year	Phase	Construction Activity	Duration (Days)	Trips/Day	Trip Length (miles)	VMT	Average Vehicle Fuel Economy (mpg)	Estimated Fuel Consumption (gallons)
	Phase 2	Building Construction	175	110	10.2	195,458	6.13	31,886
2026	MHDT							
	Phase 2	Building Construction	261	110	10.2	291,511	8.59	33,947
	HHDT (Vendor)							
	Phase 2	Building Construction	261	110	10.2	291,511	6.24	46,715
TOTAL CONSTRUCTION WORKER FUEL CONSUMPTION								***325,768***

4.3.6 CONSTRUCTION ENERGY EFFICIENCY/CONSERVATION MEASURES

Starting in 2014, CARB adopted the nation's first regulation aimed at cleaning up off-road construction equipment such as bulldozers, graders, and backhoes. These requirements ensure fleets gradually turnover the oldest and dirtiest equipment to newer, cleaner models and prevent fleets from adding older, dirtier equipment. As such, the equipment used for Project construction would conform to CARB regulations and California emissions standards. It should also be noted that there are no unusual Project characteristics or construction processes that would require the use of equipment that would be more energy intensive than is used for comparable activities; or equipment that would not conform to current emissions standards (and related fuel efficiencies). Equipment employed in construction of the Project would therefore not result in inefficient wasteful, or unnecessary consumption of fuel.

Construction contractors would be required to comply with applicable CARB regulation regarding retrofitting, repowering, or replacement of diesel off-road construction equipment. Additionally, CARB has adopted the Airborne Toxic Control Measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel particulate matter and other Toxic Air Contaminants. Compliance with anti-idling and emissions regulations would result in a more efficient use of construction-related energy and the minimization or elimination of wasteful or unnecessary consumption of energy. Idling restrictions and the use of newer engines and equipment would result in less fuel combustion and energy consumption.

Additional construction-source energy efficiencies would occur due to required California regulations and best available control measures (BACM). For example, CCR Title 13, Motor Vehicles, section 2449(d)(2) Idling, limits idling times of construction vehicles to no more than five minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. Section 2449(d)(2) requires medium and large fleets adopt a written idling policy informing operators that idling is limited to 5 consecutive minutes or less. Equipment rental agreements must also inform renters/lessees of this idling restriction. In this manner, construction equipment operators are required to be informed that engines are to be turned off at or prior to five minutes of idling. Enforcement of idling limitations is realized through periodic site inspections conducted by local building officials, and/or in response to citizen complaints.

A full analysis related to the energy needed to form construction materials is not included in this analysis due to a lack of detailed Project-specific information on construction materials. At this time, an analysis of the energy needed to create Project-related construction materials would be extremely speculative and thus has not been prepared.

In general, the construction processes promote conservation and efficient use of energy by reducing raw materials demands, with related reduction in energy demands associated with raw materials extraction, transportation, processing and refinement. Use of materials in bulk reduces energy demands associated with preparation and transport of construction materials as well as the transport and disposal of construction waste and solid waste in general, with corollary reduced demands on area landfill capacities and energy consumed by waste transport and landfill operations.

4.4 OPERATIONAL ENERGY DEMANDS

Energy consumption in support of or related to Project operations would include transportation energy demands (energy consumed by passenger car and truck vehicles accessing the Project site) and facilities energy demands (energy consumed by building operations and site maintenance activities).

4.4.1 TRANSPORTATION ENERGY DEMANDS

Energy that would be consumed by Project-generated traffic is a function of total VMT and estimated vehicle fuel economies of vehicles accessing the Project site. The VMT per vehicle class can be determined by evaluated in the vehicle fleet mix and the total VMT.

As with worker and vendors trips, operational vehicle fuel efficiencies were estimated using information generated within EMFAC2021 developed by CARB (21). EMFAC2021 was run for the San Bernardino County (SC) area for the 2027 calendar year. Data from EMFAC2021 is shown in Appendix 4.3.

As summarized on Table 4-9 the Project will result in an annual VMT of 224,605,642 and an estimated annual fuel consumption of 9,921,947 gallons of fuel.

TABLE 4-9: TOTAL PROJECT-GENERATED TRAFFIC ANNUAL FUEL CONSUMPTION (ALL VEHICLES)

Vehicle Type	Average Vehicle Fuel Economy (mpg)	Annual VMT	Estimated Annual Fuel Consumption (gallons)
LDA	34.38	106,362,791	3,094,165
LDT1	26.20	8,201,434	313,071
LDT2	26.60	45,329,084	1,704,384
MDV	21.67	32,665,421	1,507,451
LHDT1	17.03	7,453,794	437,569
LHDT2	15.90	2,041,510	128,379
MHDT	8.73	5,248,975	600,929
HHDT	6.37	11,644,172	1,828,506
OBUS	6.50	117,730	18,113
UBUS	5.55	60,528	10,904
MCY	42.45	4,447,249	104,772
SBUS	6.49	212,773	32,771
MH	5.82	820,181	140,935
TOTAL (ALL VEHICLES)		***224,605,642***	***9,921,947***

4.4.2 FACILITY ENERGY DEMANDS

Project building operations activities would result in the consumption of electricity and natural gas. Natural gas would be supplied to the Project by SoCal Gas and electricity would be supplied by SCE. Annual natural gas and electricity demands of the Project are summarized in Table 4-10.

TABLE 4-10: PROJECT ANNUAL ENERGY DEMAND SUMMARY

Electricity Demand	kWh/year	kBtu/year
Business Park	5,527,449	8,690,939
High-Cube Cold Storage	9,945,872	11,966,710
High-Cube Fulfillment/High-Cube Transload	9,219,763	37,948,738
Single Family Housing	10,843,711	44,587,845
Multi-Family Housing	25,644,063	99,656,909
Public Park	0	0
Parking Lot	4,292,838	0
Strip Retail	72,963	44,216
Shopping Center	6,694,329	4,056,846
High Turnover Restaurant	4,826,050	15,726,527
Fast Food Restaurant	3,217,366	10,484,351
Gasoline Service Station	129,256	581,192
TOTAL DEMAND	***80,413,660***	***233,744,273***

4.4.3 OPERATIONAL ENERGY EFFICIENCY/CONSERVATION MEASURES

Energy efficiency/energy conservation attributes of the Project would be complemented by increasingly stringent state and federal regulatory actions addressing vehicle fuel economies and vehicle emissions standards; and enhanced building/utilities energy efficiencies mandated under California building codes (e.g., Title 24, California Green Building Standards Code).

ENHANCED VEHICLE FUEL EFFICIENCIES

Project annual fuel consumption estimates presented previously in Table 4-9 represent likely potential maximums that would occur for the Project. Under subsequent future conditions, average fuel economies of vehicles accessing the Project site can be expected to improve as older, less fuel-efficient vehicles are removed from circulation, and in response to fuel economy and emissions standards imposed on newer vehicles entering the circulation system.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands.

4.5 SUMMARY

4.5.1 CONSTRUCTION ENERGY DEMANDS

The estimated power cost of on-site electricity usage during the construction of the Project is assumed to be approximately $1,491,006.81. Additionally, based on the assumed power cost, it is estimated that the total electricity usage during construction, after full Project build-out, is calculated to be approximately 11,310,591 kWh.

Construction equipment used by the Project would result in single event consumption of approximately 792,643 gallons of diesel fuel. Construction equipment use of fuel would not be atypical for the type of construction proposed because there are no aspects of the Project's proposed construction process that are unusual or energy-intensive, and Project construction equipment would conform to the applicable CARB emissions standards, acting to promote equipment fuel efficiencies.

CCR Title 13, Title 13, Motor Vehicles, section 2449(d)(2) Idling, limits idling times of construction vehicles to no more than 5 minutes, thereby precluding unnecessary and wasteful consumption of fuel due to unproductive idling of construction equipment. BACMs inform construction equipment operators of this requirement. Enforcement of idling limitations is realized through periodic site inspections conducted by local building officials, and/or in response to citizen complaints.

Construction worker trips for full construction of the Project would result in the estimated fuel consumption of 1,455,871 gallons of fuel. Additionally, fuel consumption from construction vendor and hauling trips (MHDTs and HHDTs) would total approximately 325,768 gallons. Diesel fuel would be supplied by regional commercial vendors. Indirectly, construction energy efficiencies and energy conservation would be achieved using bulk purchases, transport and use of construction materials. The 2021 IEPR released by the CEC has shown that fuel efficiencies are getting better within on and off-road vehicle engines due to more stringent government requirements (15). As supported by the preceding discussions, Project construction energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

4.5.2 OPERATIONAL ENERGY DEMANDS

TRANSPORTATION ENERGY DEMANDS

Annual vehicular trips and related VMT generated by the operation of the Project would result in an estimated 9,921,947 gallons of fuel.

Fuel would be provided by current and future commercial vendors. Trip generation and VMT generated by the Project are consistent with other industrial uses of similar scale and configuration, as reflected respectively in the Institute of Transportation Engineers (ITE) Trip Generation Manual (11th Ed., 2021); and CalEEMod. As such, Project operations would not result in excessive and wasteful vehicle trips and VMT, nor excess and wasteful vehicle energy consumption compared to other industrial land uses.

Enhanced fuel economies realized pursuant to federal and state regulatory actions, and related transition of vehicles to alternative energy sources (e.g., electricity, natural gas, biofuels, hydrogen cells) would likely decrease future gasoline fuel demands per VMT. Location of the Project proximate to regional and local roadway systems tends to reduce VMT within the region, acting to reduce regional vehicle energy demands. The Project would implement sidewalks, facilitating and encouraging pedestrian access. Facilitating pedestrian and bicycle access would reduce VMT and associated energy consumption. In compliance with the California Green Building Standards Code and County requirements, the Project would promote the use of bicycles as an alternative mean of transportation by providing short-term and/or long-term bicycle parking accommodations. As supported by the preceding discussions, Project transportation energy consumption would not be considered inefficient, wasteful, or otherwise unnecessary.

FACILITY ENERGY DEMANDS

Project facility operational energy demands are estimated at: 81,413,660 kWh/year of electricity and 233,744,273 kBtu/year of natural gas. The Project proposes conventional industrial uses reflecting contemporary energy efficient/energy conserving designs and operational programs. The Project does not propose uses that are inherently energy intensive and the energy demands in total would be comparable to other industrial land use projects of similar scale and configuration.

Lastly, the Project would comply with the applicable Title 24 standards. Compliance itself with applicable Title 24 standards would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary.

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5 CONCLUSIONS

5.1 ENERGY IMPACT 1

Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation.

As supported by the preceding analyses, Project construction and operations would not result in the inefficient, wasteful or unnecessary consumption of energy. The Project would therefore not cause or result in the need for additional energy producing or transmission facilities. The Project would not engage in wasteful or inefficient uses of energy and aims to achieve energy conservations goals within the State of California.

5.2 ENERGY IMPACT 2

Conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

The Project's consistency with the applicable state and local plans is discussed below.

CONSISTENCY WITH ISTEA

Transportation and access to the Project site is provided by the local and regional roadway systems. The Project would not interfere with, nor otherwise obstruct intermodal transportation plans or projects that may be realized pursuant to the ISTEA because SCAG is not planning for intermodal facilities on or through the Project site.

CONSISTENCY WITH TEA-21

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access, acts to reduce vehicle miles traveled, takes advantage of existing infrastructure systems, and promotes land use compatibilities through collocation of similar uses. The Project supports the strong planning processes emphasized under TEA-21. The Project is therefore consistent with, and would not otherwise interfere with, nor obstruct implementation of TEA-21.

CONSISTENCY WITH IEPR

Electricity would be provided to the Project by SCE. SCE's *Clean Power and Electrification Pathway* (CPEP) white paper builds on existing state programs and policies. As such, the Project is consistent with, and would not otherwise interfere with, nor obstruct implementation the goals presented in the 2021 IEPR.

Additionally, the Project will comply with the applicable Title 24 standards which would ensure that the Project energy demands would not be inefficient, wasteful, or otherwise unnecessary. As such, development of the proposed Project would support the goals presented in the 2020 IEPR.

CONSISTENCY WITH STATE OF CALIFORNIA ENERGY PLAN

The Project site is located along major transportation corridors with proximate access to the Interstate freeway system. The site selected for the Project facilitates access and takes advantage of existing infrastructure systems. The Project therefore supports urban design and planning processes identified under the State of California Energy Plan, is consistent with, and would not otherwise interfere with, nor obstruct implementation of the State of California Energy Plan.

CONSISTENCY WITH CALIFORNIA CODE TITLE 24, PART 6, ENERGY EFFICIENCY STANDARDS

The 2022 version of Title 24 was adopted by the California Energy Commission (CEC) and will become effective on January 1, 2023. It should be noted that the analysis herein assumes compliance with the 2022 Title 24 Standards. The Project would not interfere with implementation of Title 24.

CONSISTENCY WITH AB 1493

AB 1493 is not applicable to the Project as it is a statewide measure establishing vehicle emissions standards. No feature of the Project would interfere with implementation of the requirements under AB 1493.

CONSISTENCY WITH RPS

California's Renewable Portfolio Standard is not applicable to the Project as it is a statewide measure that establishes a renewable energy mix. No feature of the Project would interfere with implementation of the requirements under RPS.

CONSISTENCY WITH SB 350

The proposed Project would use energy from SCE, which have committed to diversify their portfolio of energy sources by increasing energy from wind and solar sources. No feature of the Project would interfere with implementation of SB 350. Additionally, the Project would be designed and constructed to implement the energy efficiency measures for new industrial developments and would include several measures designed to reduce energy consumption.

As shown above, the Project would not conflict with any of the state or local plans. As such, a less than significant impact is expected.

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6 REFERENCES

1. **Association of Environmental Professionals.** *2020 CEQA California Environmental Quality Act.* 2020.
2. **Urban Crossroads, Inc.** *Rich Haven Specific Plan Traffic Analysis.* 2022.
3. **Administration, U.S. Energy Information.** California State Profile and Energy Estimates. [Online] https://www.eia.gov/state/data.php?sid=CA#ConsumptionExpenditures.
4. **California Energy Commission.** *Transportation Energy Demand Forecast 2018-2030.* 2018.
5. **U.S. Department of Energy.** Alternate Fuels Data Center. [Online] https://afdc.energy.gov/states/ca.
6. **U.S. Energy Information Administration.** California Energy Consumption by End-Use Sector. *California State Profile and Energy Estimates.* [Online] https://www.eia.gov/state/?sid=CA#tabs-2.
7. **California Energy Commission.** 2020 Total System Electric Generation. *CA.gov.* [Online] https://www.energy.ca.gov/data-reports/energy-almanac/california-electricity-data/2020-total-system-electric-generation.
8. **U.S. Energy Information Administration.** California State Profile and Energy Estimates . [Online] https://www.eia.gov/state/?sid=CA.
9. **California Energy Commission.** 2013 Integrated Energy Policy Report. [Online] 2013. http://www.energy.ca.gov/2013publications/CEC-100-2013-001/CEC-100-2013-001-CMF.pdf.
10. **California ISO.** Understanding the ISO. [Online] http://www.caiso.com/about/Pages/OurBusiness/UnderstandingtheISO/default.aspx.
11. **California Energy Commission.** California Energy Almanac. *Utility Energy Supply Plans from 2013.* [Online] https://www.energy.ca.gov/almanac/electricity_data/s-2_supply_forms_2013/.
12. **California Public Utilities Commission.** Natural Gas and California. [Online] http://www.cpuc.ca.gov/general.aspx?id=4802.
13. **Department of Motor Vehicles.** *State of California Department of Motor Vehicles Statistics For Publication January Through December 2020.* 2020.
14. **U.S. Energy Information Administration.** California Analysis. *Energy Information Administration.* [Online] https://www.eia.gov/beta/states/states/ca/analysis.
15. **California Energy Commission Staff.** 2020 Integrated Energy Policy Report Update. [Online] 2020. file:///C:/Users/atamase/Downloads/TN237269_20210323T095732_Final%202020%20Integrated%20%20Energy%20Policy%20Report%20%20Update%20Volume%20III%20California%20E%20(1).pdf.
16. **The California Energy Commission.** 2019 Building Energy Efficiency Standards . *California Energy Commission.* [Online] 2018. https://www.energy.ca.gov/title24/2019standards/documents/2018_Title_24_2019_Building_Standards_FAQ.pdf.
17. **California Energy Commission.** Renewables Portfolio Standard (RPS). [Online] 2002. https://www.cpuc.ca.gov/rps/ .
18. **State of California.** *California Environmental Quality Act Guideline, California Public Resources Code, Title 14, Division 6, Chapter 3,.*
19. **Urban Crossroads, Inc.** *Rich-Haven Specific Plan, 2022 Amendment Air Quality Impact Analysis.* 2022.
20. **California Air Pollution Control Officers Association (CAPCOA).** California Emissions Estimator Model (CalEEMod). [Online] September 2016. www.caleemod.com.

21. **California Department of Transportation.** EMFAC Software. [Online] http://www.dot.ca.gov/hq/env/air/pages/emfac.htm.

22. **State of California.** *2019 CEQA California Environmental Quality Act.* 2019.

23. **Pray, Richard.** *2022 National Construction Estimator.* Carlsbad : Craftsman Book Company, 2022.

24. **Southern California Edison.** Schedule GS-1 General Service. *Regulatory Information - Rates Pricing.* [Online] https://library.sce.com/content/dam/sce-doclib/public/regulatory/tariff/electric/schedules/general-service-&-industrial-rates/ELECTRIC_SCHEDULES_GS-1.pdf.

25. **California Air Resources Board.** *Methods to Find the Cost-Effectiveness of Funding Air Quality Projects For Evaluating Motor Vehicle Registration Fee Projects And Congestion Mitigation and Air Quality Improvement (CMAQ) Projects, Emission Factor Tables.* 2018.

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7 CERTIFICATIONS

The contents of this energy analysis report represent an accurate depiction of the environmental impacts associated with the proposed Rich-Haven Specific Plan, 2022 Amendment. The information contained in this energy analysis report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

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EDUCATION

Master of Science in Environmental Studies
California State University, Fullerton • May 2010

Bachelor of Arts in Environmental Analysis and Design
University of California, Irvine • June 2006

PROFESSIONAL AFFILIATIONS

AEP – Association of Environmental Planners
AWMA – Air and Waste Management Association
ASTM – American Society for Testing and Materials

PROFESSIONAL CERTIFICATIONS

Planned Communities and Urban Infill – Urban Land Institute • June 2011
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April 2008
Principles of Ambient Air Monitoring – California Air Resources Board • August 2007
AB2588 Regulatory Standards – Trinity Consultants • November 2006
Air Dispersion Modeling – Lakes Environmental • June 2006

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APPENDIX 4.1:

CALEEMOD ANNUAL CONSTRUCTION EMISSIONS MODEL OUTPUTS

14822 Rich Haven Ph1 Construction Mitigated Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Construction Mitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01192837529811, -117.57074736445445
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.8	70.1	97.7	491	0.25	0.98	65.7	66.6	0.94	15.6	16.5	—	96,362	96,362	4.59	4.79	314	98,220

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	29.4	68.6	102	394	0.25	0.98	65.7	66.6	0.94	15.6	16.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	20.2	45.0	62.5	273	0.16	0.57	45.5	46.1	0.55	10.8	11.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.69	8.21	11.4	49.8	0.03	0.10	8.31	8.41	0.10	1.97	2.07	—	10,345	10,345	0.53	0.56	15.8	10,541

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.80	3.03	70.4	120	0.25	0.68	19.0	19.4	0.66	8.58	8.96	—	29,743	29,743	1.59	1.48	27.8	30,251
2024	30.8	70.1	97.7	491	0.24	0.98	65.7	66.6	0.94	15.6	16.5	—	96,362	96,362	4.59	4.79	314	98,220
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	25.2	21.7	74.5	329	0.25	0.68	55.0	55.6	0.66	13.1	13.6	—	76,040	76,040	4.18	4.36	7.50	77,450
2024	29.4	68.6	102	394	0.24	0.98	65.7	66.6	0.94	15.6	16.5	—	90,733	90,733	4.69	4.79	8.15	92,287
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	3.78	3.14	46.9	93.5	0.16	0.41	12.4	12.8	0.40	4.37	4.77	—	22,333	22,333	1.18	1.09	14.3	22,702
2024	20.2	45.0	62.5	273	0.15	0.57	45.5	46.1	0.55	10.8	11.3	—	62,486	62,486	3.23	3.38	95.4	63,670
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2023	0.69	0.57	8.56	17.1	0.03	0.07	2.26	2.34	0.07	0.80	0.87	—	3,698	3,698	0.20	0.18	2.38	3,759

2024	3.69	8.21	11.4	49.8	0.03	0.10	8.31	8.41	0.10	1.97	2.07	—	10,345	10,345	0.53	0.56	15.8	10,541

3. Construction Emissions Details

3.1. Site Preparation (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,589	16,589	0.67	0.13	—	16,646
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.47	0.47	11.0	20.9	0.04	0.07	—	0.07	0.07	—	0.07	—	3,863	3,863	0.16	0.03	—	3,877
Dust From Material Movement	—	—	—	—	—	—	3.96	3.96	—	1.88	1.88	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.09	2.00	3.82	0.01	0.01	—	0.01	0.01	—	0.01	—	640	640	0.03	0.01	—	642
Dust From Material Movement	—	—	—	—	—	—	0.72	0.72	—	0.34	0.34	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.28	4.86	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	771	771	0.03	0.03	3.31	783
Vendor	0.54	0.14	5.72	3.08	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,817	4,817	0.40	0.71	13.3	5,052
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.32	3.65	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	707	707	0.03	0.03	0.09	715
Vendor	0.53	0.13	5.94	3.13	0.03	0.07	0.27	0.34	0.07	0.10	0.17	—	4,819	4,819	0.40	0.71	0.35	5,042
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.08	0.90	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	167	167	0.01	0.01	0.33	169

Vendor	0.13	0.03	1.39	0.72	0.01	0.02	0.06	0.08	0.02	0.02	0.04	—	1,122	1,122	0.09	0.17	1.34	1,175
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	27.6	27.6	< 0.005	< 0.005	0.06	28.0
Vendor	0.02	0.01	0.25	0.13	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	186	186	0.02	0.03	0.22	195
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2023) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.04	1.04	25.2	45.8	0.08	0.23	—	0.23	0.23	—	0.23	—	8,500	8,500	0.34	0.07	—	8,529
Dust From Material Movement	—	—	—	—	—	—	3.38	3.38	—	1.24	1.24	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.19	4.60	8.36	0.01	0.04	—	0.04	0.04	—	0.04	—	1,407	1,407	0.06	0.01	—	1,412
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.23	0.23	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.36	0.33	0.32	5.55	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	881	881	0.04	0.03	3.78	895
Vendor	0.98	0.24	10.3	5.58	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,715	8,715	0.73	1.29	24.1	9,140
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.37	4.18	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	808	808	0.04	0.03	0.10	818
Vendor	0.97	0.23	10.7	5.66	0.06	0.12	0.49	0.62	0.12	0.19	0.31	—	8,719	8,719	0.73	1.29	0.63	9,122

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.13	0.16	1.86	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	346	346	0.02	0.01	0.69	350
Vendor	0.41	0.10	4.56	2.37	0.03	0.05	0.21	0.26	0.05	0.08	0.13	—	3,678	3,678	0.31	0.54	4.40	3,851
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.03	0.34	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	57.2	57.2	< 0.005	< 0.005	0.11	58.0
Vendor	0.07	0.02	0.83	0.43	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	609	609	0.05	0.09	0.73	638
Hauling	0.00	0.00	0.00	0.00	0.00	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

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.9	48.6	0.08	0.38	—	0.38	0.36	—	0.36	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	1.87	2.95	< 0.005	0.02	—	0.02	0.02	—	0.02	—	479	479	0.02	< 0.005	—	480
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.34	0.54	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	79.2	79.2	< 0.005	< 0.005	—	79.5
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.0	19.9	23.9	270	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	52,139	52,139	2.52	1.92	6.35	52,781
Vendor	1.77	0.42	19.7	10.4	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	16,011	16,011	1.34	2.37	1.15	16,752
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.33	1.20	1.45	17.3	0.00	0.00	0.19	0.19	0.00	0.00	0.00	—	3,208	3,208	0.15	0.12	6.41	3,253
Vendor	0.11	0.03	1.21	0.63	0.01	0.01	0.06	0.07	0.01	0.02	0.03	—	971	971	0.08	0.14	1.16	1,017
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.24	0.22	0.27	3.16	0.00	0.00	0.03	0.03	0.00	0.00	0.00	—	531	531	0.03	0.02	1.06	539
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	161	161	0.01	0.02	0.19	168
Hauling	0.00	0.00	0.00	0.00	0.00	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. Building Construction (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.96	22.1	34.8	0.05	0.27	—	0.27	0.25	—	0.25	—	5,652	5,652	0.23	0.05	—	5,671
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.17	4.03	6.35	0.01	0.05	—	0.05	0.05	—	0.05	—	936	936	0.04	0.01	—	939
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	22.2	20.3	18.8	328	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	55,768	55,768	2.35	1.92	223	56,622
Vendor	1.68	0.45	18.2	9.74	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,833	15,833	1.22	2.36	44.2	16,611
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	21.1	19.1	22.1	248	0.00	0.00	3.16	3.16	0.00	0.00	0.00	—	51,115	51,115	2.43	1.92	5.78	51,755
Vendor	1.65	0.42	18.9	9.88	0.11	0.23	0.91	1.14	0.23	0.34	0.57	—	15,840	15,840	1.22	2.36	1.14	16,575
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	15.0	13.5	15.8	186	0.00	0.00	2.26	2.26	0.00	0.00	0.00	—	37,129	37,129	1.74	1.38	68.9	37,652
Vendor	1.19	0.31	13.6	7.04	0.08	0.16	0.65	0.81	0.16	0.24	0.41	—	11,342	11,342	0.87	1.69	13.6	11,882
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.73	2.47	2.89	34.0	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,147	6,147	0.29	0.23	11.4	6,234
Vendor	0.22	0.06	2.49	1.28	0.01	0.03	0.12	0.15	0.03	0.04	0.07	—	1,878	1,878	0.14	0.28	2.25	1,967
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Paving (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,535	4,535	0.18	0.04	—	4,550
Paving	—	1.75	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.16	5.15	7.58	0.01	0.06	—	0.06	0.06	—	0.06	—	1,081	1,081	0.04	0.01	—	1,085
Paving	—	0.42	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.03	0.94	1.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	179	179	0.01	< 0.005	—	180
Paving	—	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.26	0.24	0.22	3.81	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	648	648	0.03	0.02	2.59	658
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601

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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.72	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	144	144	0.01	0.01	0.27	146
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.13	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.8	23.8	< 0.005	< 0.005	0.04	24.1
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	41.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536

Architect Coatings	—	41.2	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	2.80	2.52	< 0.005	0.08	—	0.08	0.07	—	0.07	—	350	350	0.01	< 0.005	—	351
Architectural Coatings	—	27.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.51	0.46	< 0.005	0.01	—	0.01	0.01	—	0.01	—	57.9	57.9	< 0.005	< 0.005	—	58.1
Architectural Coatings	—	4.93	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.44	4.06	3.76	65.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	11,154	11,154	0.47	0.38	44.6	11,324
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.22	3.82	4.42	49.5	0.00	0.00	0.63	0.63	0.00	0.00	0.00	—	10,223	10,223	0.49	0.38	1.16	10,351
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	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	2.74	2.48	2.90	34.1	0.00	0.00	0.41	0.41	0.00	0.00	0.00	—	6,789	6,789	0.32	0.25	12.6	6,884
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.50	0.45	0.53	6.22	0.00	0.00	0.08	0.08	0.00	0.00	0.00	—	1,124	1,124	0.05	0.04	2.09	1,140
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2023	4/30/2023	5.00	85.0	—
Grading	Grading	5/1/2023	11/30/2023	5.00	154	—

Building Construction	Building Construction	12/1/2023	12/31/2024	5.00	283	—
Paving	Paving	9/1/2024	12/31/2024	5.00	87.0	—
Architectural Coating	Architectural Coating	2/1/2024	12/31/2024	5.00	239	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	9.00	8.00	367	0.40
Grading	Excavators	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Interim	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Tier 4 Interim	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	152	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	275	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	3,874	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	505	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	775	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	10,305,711	3,435,237	4,496,411	1,498,804	151,589

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	1,700	0.00	—
Grading	—	—	3,080	0.00	—
Paving	0.00	0.00	0.00	0.00	67.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Office Park	0.00	0%
Refrigerated Warehouse-No Rail	0.00	0%
Unrefrigerated Warehouse-No Rail	0.00	0%

Condo/Townhouse	—	0%
Single Family Housing	9.06	0%
Strip Mall	0.00	0%
Gasoline/Service Station	0.00	0%
Regional Shopping Center	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Parking Lot	58.0	100%
City Park	0.00	0%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2023	0.00	532	0.03	< 0.005
2024	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site plan
Construction: Construction Phases	Schedule adjusted based on data from the Project team.
Construction: Off-Road Equipment	Equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings

14822 Rich Haven Ph2 Construction Mitigated Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Construction Mitigated
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01284450351814, -117.57158813842331
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	14.0	49.3	73.1	256	0.21	0.85	32.3	33.1	0.81	8.35	8.69	—	51,709	51,709	2.35	2.23	127	52,561
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13.4	48.6	74.4	215	0.21	0.85	32.3	33.1	0.81	7.65	8.45	—	49,051	49,051	2.00	2.28	3.30	49,771
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	8.60	22.7	41.8	134	0.12	0.45	21.0	21.5	0.43	4.98	5.41	—	31,329	31,329	1.21	1.55	36.6	31,850

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.57	4.15	7.62	24.5	0.02	0.08	3.84	3.92	0.08	0.91	0.99	—	5,187	5,187	0.20	0.26	6.06	5,273

2.2. Construction Emissions by Year, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.09	2.85	63.2	115	0.21	0.59	18.1	18.5	0.58	8.35	8.69	—	23,736	23,736	1.06	0.60	11.1	23,953
2025	11.7	10.2	63.0	201	0.21	0.59	26.7	27.2	0.58	6.34	6.79	—	41,436	41,436	1.96	2.03	118	42,209
2026	14.0	49.3	73.1	256	0.17	0.85	32.3	33.1	0.81	7.65	8.45	—	51,709	51,709	2.35	2.23	127	52,561
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	3.07	2.83	63.3	114	0.21	0.63	9.53	10.1	0.59	3.33	3.91	—	23,665	23,665	1.07	0.60	0.29	23,871
2025	11.2	9.69	63.1	164	0.21	0.59	26.7	27.2	0.58	6.34	6.79	—	39,212	39,212	2.00	2.03	3.07	39,870
2026	13.4	48.6	74.4	215	0.17	0.85	32.3	33.1	0.81	7.65	8.45	—	49,051	49,051	1.46	2.28	3.30	49,771
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	1.78	1.64	36.7	66.2	0.12	0.35	7.96	8.31	0.34	3.36	3.70	—	13,571	13,571	0.61	0.33	2.63	13,686
2025	6.03	5.24	38.2	108	0.11	0.36	14.9	15.2	0.35	3.78	4.13	—	24,512	24,512	1.21	1.11	25.6	24,900
2026	8.60	22.7	41.8	134	0.10	0.45	21.0	21.5	0.43	4.98	5.41	—	31,329	31,329	0.92	1.55	36.6	31,850
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2024	0.32	0.30	6.71	12.1	0.02	0.06	1.45	1.52	0.06	0.61	0.68	—	2,247	2,247	0.10	0.05	0.44	2,266
2025	1.10	0.96	6.97	19.8	0.02	0.07	2.72	2.78	0.06	0.69	0.75	—	4,058	4,058	0.20	0.18	4.24	4,122
2026	1.57	4.15	7.62	24.5	0.02	0.08	3.84	3.92	0.08	0.91	0.99	—	5,187	5,187	0.15	0.26	6.06	5,273

3. Construction Emissions Details

3.1. Demolition (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.24	1.24	35.7	54.5	0.10	0.60	—	0.60	0.57	—	0.57	—	10,276	10,276	0.42	0.08	—	10,311
Demolition	—	—	—	—	—	—	0.30	0.30	—	0.04	0.04	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.22	0.22	6.36	9.71	0.02	0.11	—	0.11	0.10	—	0.10	—	1,830	1,830	0.07	0.01	—	1,836
Demolition	—	—	—	—	—	—	0.05	0.05	—	0.01	0.01	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.16	1.77	< 0.005	0.02	—	0.02	0.02	—	0.02	—	303	303	0.01	< 0.005	—	304
Demolition	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.25	0.22	0.26	2.88	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	594	594	0.03	0.02	0.07	601
Vendor	0.11	0.03	1.24	0.65	0.01	0.01	0.06	0.07	0.01	0.02	0.04	—	1,035	1,035	0.08	0.15	0.07	1,083
Hauling	0.05	0.01	0.48	0.26	< 0.005	0.01	0.03	0.04	< 0.005	0.01	0.01	—	374	374	0.04	0.06	0.02	393
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.05	0.54	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	107	107	0.01	< 0.005	0.20	109
Vendor	0.02	< 0.005	0.22	0.11	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	0.01	—	184	184	0.01	0.03	0.22	193
Hauling	0.01	< 0.005	0.09	0.05	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	66.6	66.6	0.01	0.01	0.06	70.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	17.8	17.8	< 0.005	< 0.005	0.03	18.0
Vendor	< 0.005	< 0.005	0.04	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	30.5	30.5	< 0.005	< 0.005	0.04	32.0
Hauling	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	11.0	11.0	< 0.005	< 0.005	0.01	11.6

3.3. Site Preparation (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.03	2.03	47.1	89.9	0.15	0.31	—	0.31	0.31	—	0.31	—	16,588	16,588	0.67	0.13	—	16,644
Dust From Material Movement	—	—	—	—	—	—	17.0	17.0	—	8.06	8.06	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.61	0.61	14.2	27.1	0.05	0.09	—	0.09	0.09	—	0.09	—	4,999	4,999	0.20	0.04	—	5,016
Dust From Material Movement	—	—	—	—	—	—	5.12	5.12	—	2.43	2.43	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.59	4.94	0.01	0.02	—	0.02	0.02	—	0.02	—	828	828	0.03	0.01	—	830
Dust From Material Movement	—	—	—	—	—	—	0.93	0.93	—	0.44	0.44	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.27	0.25	4.44	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	756	756	0.03	0.03	3.02	767

Vendor	0.18	0.05	1.98	1.06	0.01	0.02	0.10	0.12	0.02	0.04	0.06	—	1,724	1,724	0.13	0.26	4.81	1,809
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.06	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	212	212	0.01	0.01	0.39	215
Vendor	0.05	0.01	0.62	0.32	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	520	520	0.04	0.08	0.62	544
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.02	0.01	0.02	0.19	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	35.1	35.1	< 0.005	< 0.005	0.07	35.5
Vendor	0.01	< 0.005	0.11	0.06	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	86.1	86.1	0.01	0.01	0.10	90.1
Hauling	0.00	0.00	0.00	0.00	0.00	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. Grading (2024) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,145	20,145	0.82	0.16	—	20,214
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.59	0.59	14.3	25.9	0.04	0.13	—	0.13	0.13	—	0.13	—	4,810	4,810	0.20	0.04	—	4,826
Dust From Material Movement	—	—	—	—	—	—	1.91	1.91	—	0.70	0.70	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.60	4.73	0.01	0.02	—	0.02	0.02	—	0.02	—	796	796	0.03	0.01	—	799
Dust From Material Movement	—	—	—	—	—	—	0.35	0.35	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.34	0.31	0.29	5.08	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	864	864	0.04	0.03	3.45	877

Vendor	0.29	0.08	3.13	1.68	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,728	2,728	0.21	0.41	7.61	2,862
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.33	0.30	0.34	3.84	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	792	792	0.04	0.03	0.09	802
Vendor	0.28	0.07	3.26	1.70	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,729	2,729	0.21	0.41	0.20	2,856
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.08	0.96	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	192	192	0.01	0.01	0.36	194
Vendor	0.07	0.02	0.78	0.40	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	651	651	0.05	0.10	0.78	682
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.18	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	31.7	31.7	< 0.005	< 0.005	0.06	32.2
Vendor	0.01	< 0.005	0.14	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	108	108	0.01	0.02	0.13	113
Hauling	0.00	0.00	0.00	0.00	0.00	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. Grading (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215

Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.46	59.7	109	0.19	0.55	—	0.55	0.54	—	0.54	—	20,146	20,146	0.82	0.16	—	20,215
Dust From Material Movement	—	—	—	—	—	—	8.01	8.01	—	2.94	2.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.58	14.0	25.5	0.04	0.13	—	0.13	0.13	—	0.13	—	4,731	4,731	0.19	0.04	—	4,747
Dust From Material Movement	—	—	—	—	—	—	1.88	1.88	—	0.69	0.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.11	2.56	4.65	0.01	0.02	—	0.02	0.02	—	0.02	—	783	783	0.03	0.01	—	786
Dust From Material Movement	—	—	—	—	—	—	0.34	0.34	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.30	0.28	0.26	4.67	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	845	845	0.04	0.03	3.14	858
Vendor	0.27	0.08	2.98	1.61	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,684	2,684	0.21	0.41	7.55	2,818
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.29	3.52	0.00	0.00	0.05	0.05	0.00	0.00	0.00	—	775	775	0.04	0.03	0.08	785
Vendor	0.26	0.07	3.11	1.62	0.02	0.04	0.16	0.20	0.04	0.06	0.10	—	2,685	2,685	0.21	0.41	0.20	2,812
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.87	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	185	185	0.01	0.01	0.32	187
Vendor	0.06	0.02	0.74	0.38	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	—	630	630	0.05	0.10	0.77	661
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.16	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	30.6	30.6	< 0.005	< 0.005	0.05	31.0
Vendor	0.01	< 0.005	0.13	0.07	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	104	104	0.01	0.02	0.13	109
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (2025) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,891	7,891	0.32	0.06	—	7,918
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.67	0.64	14.8	23.3	0.04	0.18	—	0.18	0.17	—	0.17	—	3,783	3,783	0.15	0.03	—	3,796
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.12	2.70	4.25	0.01	0.03	—	0.03	0.03	—	0.03	—	626	626	0.03	0.01	—	629
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.66	8.72	8.36	148	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,789	26,789	1.11	0.94	99.4	27,197
Vendor	0.67	0.19	7.50	4.06	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,756	6,756	0.52	1.02	19.0	7,093
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.17	9.22	112	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,561	24,561	1.15	0.94	2.57	24,873

Vendor	0.66	0.18	7.84	4.07	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,760	6,760	0.52	1.02	0.49	7,078
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	4.33	3.86	4.79	56.5	0.00	0.00	0.74	0.74	0.00	0.00	0.00	—	11,942	11,942	0.55	0.45	20.6	12,111
Vendor	0.32	0.09	3.78	1.93	0.02	0.05	0.19	0.24	0.05	0.07	0.12	—	3,240	3,240	0.25	0.49	3.95	3,396
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.79	0.70	0.87	10.3	0.00	0.00	0.14	0.14	0.00	0.00	0.00	—	1,977	1,977	0.09	0.07	3.41	2,005
Vendor	0.06	0.02	0.69	0.35	< 0.005	0.01	0.03	0.04	0.01	0.01	0.02	—	536	536	0.04	0.08	0.65	562
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.40	1.34	30.8	48.6	0.08	0.37	—	0.37	0.35	—	0.35	—	7,890	7,890	0.32	0.06	—	7,917
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.00	0.95	22.0	34.7	0.05	0.26	—	0.26	0.25	—	0.25	—	5,635	5,635	0.23	0.05	—	5,655
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.17	4.02	6.33	0.01	0.05	—	0.05	0.05	—	0.05	—	933	933	0.04	0.01	—	936
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	9.12	8.22	7.50	137	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	26,242	26,242	1.11	0.90	89.8	26,628
Vendor	0.67	0.14	7.18	3.89	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,643	6,643	0.47	1.02	17.5	6,977
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	8.61	7.67	8.36	103	0.00	0.00	1.55	1.55	0.00	0.00	0.00	—	24,066	24,066	0.38	0.94	2.33	24,359
Vendor	0.66	0.13	7.47	3.95	0.05	0.10	0.39	0.49	0.10	0.15	0.25	—	6,647	6,647	0.47	1.02	0.45	6,964
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	6.15	5.48	6.53	77.7	0.00	0.00	1.11	1.11	0.00	0.00	0.00	—	17,431	17,431	0.27	0.67	27.7	17,666
Vendor	0.47	0.09	5.37	2.80	0.04	0.07	0.28	0.35	0.07	0.11	0.18	—	4,746	4,746	0.34	0.73	5.38	4,978
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.12	1.00	1.19	14.2	0.00	0.00	0.20	0.20	0.00	0.00	0.00	—	2,886	2,886	0.04	0.11	4.59	2,925

Vendor	0.09	0.02	0.98	0.51	0.01	0.01	0.05	0.06	0.01	0.02	0.03	—	786	786	0.06	0.12	0.89	824
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.69	0.69	21.6	31.8	0.04	0.26	—	0.26	0.24	—	0.24	—	4,532	4,532	0.18	0.04	—	4,547
Paving	—	1.62	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.17	5.21	7.67	0.01	0.06	—	0.06	0.06	—	0.06	—	1,093	1,093	0.04	0.01	—	1,096
Paving	—	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.03	0.03	0.95	1.40	< 0.005	0.01	—	0.01	0.01	—	0.01	—	181	181	0.01	< 0.005	—	182
Paving	—	0.07	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.22	0.19	0.18	3.24	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	621	621	0.03	0.02	2.13	630
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.20	0.18	0.20	2.45	0.00	0.00	0.04	0.04	0.00	0.00	0.00	—	570	570	0.01	0.02	0.06	577
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.04	0.05	0.62	0.00	0.00	0.01	0.01	0.00	0.00	0.00	—	139	139	< 0.005	0.01	0.22	141
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.11	0.00	0.00	< 0.005	< 0.005	0.00	0.00	0.00	—	23.1	23.1	< 0.005	< 0.005	0.04	23.4
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2026) - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	35.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.08	0.08	4.28	3.85	0.01	0.12	—	0.12	0.11	—	0.11	—	534	534	0.02	< 0.005	—	536
Architectural Coatings	—	35.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	1.80	1.63	< 0.005	0.05	—	0.05	0.05	—	0.05	—	225	225	0.01	< 0.005	—	226
Architectural Coatings	—	14.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.33	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	—	37.3	37.3	< 0.005	< 0.005	—	37.4

Architect Coatings	—	2.72	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.82	1.64	1.50	27.4	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	5,248	5,248	0.22	0.18	18.0	5,326
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.72	1.53	1.67	20.7	0.00	0.00	0.31	0.31	0.00	0.00	0.00	—	4,813	4,813	0.08	0.19	0.47	4,872
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.73	0.65	0.77	9.18	0.00	0.00	0.13	0.13	0.00	0.00	0.00	—	2,059	2,059	0.03	0.08	3.27	2,087
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.14	1.68	0.00	0.00	0.02	0.02	0.00	0.00	0.00	—	341	341	0.01	0.01	0.54	346
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	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Demolition	Demolition	1/1/2024	3/31/2024	5.00	65.0	—
Site Preparation	Site Preparation	4/1/2024	8/31/2024	5.00	110	—
Grading	Grading	9/1/2024	4/30/2025	5.00	173	—
Building Construction	Building Construction	5/1/2025	12/31/2026	5.00	436	—
Paving	Paving	9/1/2026	12/31/2026	5.00	88.0	—
Architectural Coating	Architectural Coating	6/1/2026	12/31/2026	5.00	154	—

5.2. Off-Road Equipment

5.2.1. Unmitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Tier 4 Interim	3.00	8.00	33.0	0.73
Demolition	Excavators	Diesel	Tier 4 Interim	9.00	8.00	36.0	0.38
Demolition	Rubber Tired Dozers	Diesel	Tier 4 Interim	6.00	8.00	367	0.40
Site Preparation	Rubber Tired Dozers	Diesel	Tier 4 Interim	9.00	8.00	367	0.40

Grading	Excavators	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Interim	3.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Interim	3.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Interim	6.00	8.00	423	0.48
Building Construction	Cranes	Diesel	Tier 4 Interim	3.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Interim	9.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Tier 4 Interim	3.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Interim	9.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Tier 4 Interim	3.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Interim	6.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Interim	6.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Tier 4 Interim	6.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Tier 4 Interim	3.00	8.00	37.0	0.48
Site Preparation	Crawler Tractors	Diesel	Tier 4 Interim	12.0	8.00	87.0	0.43
Grading	Crawler Tractors	Diesel	Tier 4 Interim	6.00	8.00	87.0	0.43

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	45.0	18.5	LDA,LDT1,LDT2
Demolition	Vendor	33.0	10.2	HHDT,MHDT
Demolition	Hauling	5.31	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	52.5	18.5	LDA,LDT1,LDT2

Site Preparation	Vendor	55.0	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	60.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	87.0	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	1,901	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	219	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	45.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	380	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	6,674,096	2,224,699	1,062,144	354,048	142,363

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (Building Square Footage)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	30,000	—
Site Preparation	—	—	2,200	0.00	—
Grading	—	—	3,460	0.00	—
Paving	0.00	0.00	0.00	0.00	61.1

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	3	74%	74%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	6.64	0%
Condo/Townhouse	—	0%
City Park	0.00	0%
Regional Shopping Center	0.00	0%

High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Gasoline/Service Station	0.00	0%
Parking Lot	54.5	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2024	0.00	532	0.03	< 0.005
2025	0.00	532	0.03	< 0.005
2026	0.00	532	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859

Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—

Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on site area
Construction: Construction Phases	Construction schedule based on info from the Project team
Construction: Off-Road Equipment	Construction equipment based on data from the Project team.
Construction: Dust From Material Movement	Assumes 20 acres will be graded per day
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Demolition, Site Preparation, Grading, and Building Construction.
Construction: Architectural Coatings	Project will use super-compliant coatings.

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APPENDIX 4.2:

CALEEMOD OPERATIONS EMISSIONS MODEL OUTPUTS

14822 Rich Haven Ph1 Ops 2027 Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph1 Ops 2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.012654365759644, -117.57100716437458
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Office Park	317	1000sqft	7.27	316,725	0.00	—	—	—
Refrigerated Warehouse-No Rail	454	1000sqft	10.4	454,244	0.00	—	—	—

Unrefrigerated Warehouse-No Rail	1,996	1000sqft	45.8	1,996,180	531,432	—	—	—
User Defined Industrial	2,767	User Defined Unit	0.00	0.00	0.00	—	—	—
Condo/Townhouse	3,289	Dwelling Unit	106	3,486,340	1,045,440	—	10,887	—
Single Family Housing	822	Dwelling Unit	72.5	1,602,900	631,620	—	2,721	—
Strip Mall	7.50	1000sqft	0.17	7,500	4,356	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Regional Shopping Center	162	1000sqft	3.72	162,137	109,336	—	—	—
High Turnover (Sit Down Restaurant)	32.4	1000sqft	0.74	32,427	0.00	—	—	—
Fast Food Restaurant with Drive Thru	21.6	1000sqft	0.50	21,618	0.00	—	—	—
City Park	1.30	Acre	1.30	0.00	56,628	56,628	—	—
Parking Lot	58.0	Acre	58.0	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	289	446	348	1,925	4.95	11.8	136	148	11.7	25.2	36.9	5,170	629,697	634,867	557	36.0	1,918	661,438
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	230	389	360	1,357	4.71	11.6	136	148	11.4	25.2	36.5	5,170	606,339	611,509	558	36.3	620	636,882
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	201	367	260	1,265	3.40	6.64	100	107	6.54	18.7	25.2	5,170	437,786	442,956	551	30.6	1,016	466,884
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	36.7	66.9	47.4	231	0.62	1.21	18.3	19.5	1.19	3.41	4.60	856	72,480	73,336	91.3	5.07	168	77,298

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	232	208	247	1,514	4.31	3.76	136	140	3.54	25.2	28.7	—	450,131	450,131	25.2	31.0	1,332	461,322
Area	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.44	—	74,904
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	289	446	348	1,925	4.95	11.8	136	148	11.7	25.2	36.9	5,170	629,697	634,867	557	36.0	1,918	661,438
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	218	194	262	1,308	4.09	3.76	136	140	3.55	25.2	28.7	—	427,933	427,933	26.1	31.5	34.6	438,017

Area	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	230	389	360	1,357	4.71	11.6	136	148	11.4	25.2	36.5	5,170	606,339	611,509	558	36.3	620	636,882
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	165	145	214	990	3.12	3.00	100	103	2.83	18.7	21.5	—	327,123	327,123	20.6	25.8	430	335,770
Area	31.7	219	6.31	250	0.04	0.50	—	0.50	0.56	—	0.56	0.00	5,834	5,834	0.13	0.22	—	5,902
Energy	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	99,282	99,282	9.13	0.67	—	99,710
Water	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Waste	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Total	201	367	260	1,265	3.40	6.64	100	107	6.54	18.7	25.2	5,170	437,786	442,956	551	30.6	1,016	466,884
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.0	26.5	39.0	181	0.57	0.55	18.3	18.8	0.52	3.41	3.92	—	54,159	54,159	3.41	4.28	71.3	55,591
Area	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.04	—	977
Energy	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	16,437	16,437	1.51	0.11	—	16,508
Water	—	—	—	—	—	—	—	—	—	—	—	261	918	1,180	26.9	0.65	—	2,045
Waste	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9
Total	36.7	66.9	47.4	231	0.62	1.21	18.3	19.5	1.19	3.41	4.60	856	72,480	73,336	91.3	5.07	168	77,298

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	3.09	2.89	1.27	25.1	0.05	0.02	0.26	0.28	0.02	0.08	0.10	—	5,338	5,338	0.21	0.14	15.6	5,401
Refrigerated Warehouse-No Rail	1.96	1.84	0.81	15.9	0.03	0.01	0.17	0.18	0.01	0.05	0.06	—	3,391	3,391	0.13	0.09	9.90	3,431
Unrefrigerated Warehouse-No Rail	15.4	14.4	6.33	125	0.26	0.12	1.30	1.42	0.11	0.39	0.50	—	26,602	26,602	1.06	0.70	77.7	26,916
User Defined Industrial	9.99	2.27	101	59.2	0.88	1.52	8.23	9.75	1.46	2.67	4.12	—	98,266	98,266	7.46	14.8	259	103,113
Condo/Townhouse	70.4	64.8	50.1	472	1.15	0.77	6.70	7.47	0.72	2.07	2.80	—	117,821	117,821	5.86	5.58	362	119,994
Single Family Housing	29.5	27.2	21.0	198	0.48	0.32	2.81	3.13	0.30	0.87	1.17	—	49,416	49,416	2.46	2.34	152	50,327
Strip Mall	1.28	1.17	0.95	9.07	0.02	0.01	0.13	0.15	0.01	0.04	0.05	—	2,303	2,303	0.11	0.11	7.10	2,344
Gasoline/Service Station	16.1	14.7	12.0	114	0.28	0.19	1.65	1.84	0.18	0.51	0.69	—	28,986	28,986	1.39	1.35	89.4	29,512
Regional Shopping Center	45.5	42.9	24.7	217	0.46	0.33	2.64	2.97	0.31	0.82	1.12	—	47,534	47,534	3.14	2.61	143	48,533

High Turnover (Sit Down Restaurant)	10.9	9.96	8.12	77.3	0.19	0.13	1.12	1.25	0.12	0.35	0.47	—	19,617	19,617	0.94	0.91	60.5	19,973
Fast Food Restaurant with Drive Thru	28.2	25.8	21.0	200	0.49	0.33	2.90	3.23	0.31	0.90	1.21	—	50,835	50,835	2.43	2.36	157	51,757
City Park	0.01	0.01	0.01	0.08	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	19.9	19.9	< 0.005	< 0.005	0.06	20.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	232	208	247	1,514	4.31	3.76	27.9	31.7	3.54	8.75	12.3	—	450,131	450,131	25.2	31.0	1,332	461,322
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	2.94	2.74	1.40	21.1	0.05	0.02	0.26	0.28	0.02	0.08	0.10	—	4,922	4,922	0.23	0.15	0.40	4,973
Refrigerated Warehouse-No Rail	1.87	1.74	0.89	13.4	0.03	0.01	0.17	0.18	0.01	0.05	0.06	—	3,127	3,127	0.14	0.10	0.26	3,159
Unrefrigerated Warehouse-No Rail	14.7	13.7	6.99	105	0.24	0.12	1.30	1.42	0.11	0.39	0.50	—	24,525	24,525	1.13	0.75	2.01	24,780
User Defined Industrial	9.91	2.20	105	59.3	0.88	1.52	8.23	9.75	1.46	2.67	4.12	—	98,288	98,288	7.46	14.8	6.71	102,886
Condo/Townhouse	66.0	60.3	53.7	404	1.08	0.77	6.70	7.47	0.72	2.07	2.80	—	110,555	110,555	6.14	5.76	9.39	112,435
Single Family Housing	27.7	25.3	22.5	169	0.45	0.32	2.81	3.13	0.30	0.87	1.17	—	46,368	46,368	2.58	2.42	3.94	47,157

Strip Mall	1.20	1.09	1.02	7.70	0.02	0.01	0.13	0.15	0.01	0.04	0.05	—	2,160	2,160	0.11	0.11	0.18	2,196
Gasoline /Service Station	15.1	13.7	12.9	97.0	0.26	0.19	1.65	1.84	0.18	0.51	0.69	—	27,193	27,193	1.45	1.39	2.32	27,646
Regional Shopping Center	42.5	39.7	26.4	196	0.43	0.33	2.64	2.97	0.31	0.82	1.12	—	44,685	44,685	3.35	2.69	3.70	45,575
High Turnover (Sit Down Restaurant)	10.2	9.28	8.70	65.6	0.18	0.13	1.12	1.25	0.12	0.35	0.47	—	18,403	18,403	0.98	0.94	1.57	18,710
Fast Food Restaurant with Drive Thru	26.4	24.0	22.6	170	0.46	0.33	2.90	3.23	0.31	0.90	1.21	—	47,689	47,689	2.54	2.44	4.06	48,483
City Park	0.01	0.01	0.01	0.07	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	18.6	18.6	< 0.005	< 0.005	< 0.005	18.9
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	218	194	262	1,308	4.09	3.76	27.9	31.7	3.55	8.75	12.3	—	427,933	427,933	26.1	31.5	34.6	438,017
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.47	0.43	0.23	3.49	0.01	< 0.005	0.04	0.05	< 0.005	0.01	0.02	—	722	722	0.03	0.02	0.97	730
Refrigerated Warehouse-No Rail	0.29	0.27	0.15	2.21	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	458	458	0.02	0.01	0.62	463
Unrefrigerated Warehouse-No Rail	2.53	2.35	1.25	18.9	0.04	0.02	0.23	0.25	0.02	0.07	0.09	—	3,921	3,921	0.18	0.12	5.29	3,967
User Defined Industrial	1.70	0.38	18.2	10.1	0.15	0.26	1.41	1.67	0.25	0.46	0.71	—	15,286	15,286	1.16	2.30	17.4	16,017

Condo/T	10.4	9.51	8.66	66.4	0.17	0.12	1.07	1.19	0.11	0.33	0.44	—	16,118	16,118	0.89	0.84	22.6	16,412
Single Family Housing	4.92	4.49	4.09	31.4	0.08	0.06	0.50	0.56	0.05	0.16	0.21	—	7,611	7,611	0.42	0.40	10.7	7,750
Strip Mall	0.18	0.17	0.16	1.24	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	307	307	0.02	0.02	0.43	312
Gasoline /Service Station	1.75	1.63	1.16	8.82	0.02	0.01	0.12	0.14	0.01	0.04	0.05	—	1,862	1,862	0.13	0.11	2.56	1,900
Regional Shopping Center	3.95	3.70	2.44	18.4	0.04	0.03	0.24	0.26	0.03	0.07	0.10	—	3,661	3,661	0.28	0.22	4.98	3,739
High Turnover (Sit Down Restaurant)	1.14	1.06	0.79	6.01	0.01	0.01	0.09	0.10	0.01	0.03	0.04	—	1,312	1,312	0.09	0.07	1.81	1,338
Fast Food Restaurant with Drive Thru	2.69	2.51	1.80	13.7	0.03	0.02	0.19	0.21	0.02	0.06	0.08	—	2,899	2,899	0.20	0.17	3.98	2,958
City Park	< 0.005	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	2.41	2.41	< 0.005	< 0.005	< 0.005	2.45
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	30.0	26.5	39.0	181	0.57	0.55	3.92	4.47	0.52	1.23	1.75	—	54,159	54,159	3.41	4.28	71.3	55,591

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,243	5,243	0.50	0.06	—	5,273
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,433	9,433	0.90	0.11	—	9,488
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,745	8,745	0.83	0.10	—	8,796
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,125	15,125	1.44	0.17	—	15,214
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,933	5,933	0.57	0.07	—	5,967
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.2	69.2	0.01	< 0.005	—	69.6
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,496	1,496	0.14	0.02	—	1,505
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.10	0.01	—	1,085
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	719	719	0.07	0.01	—	723

City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,099	2,099	0.20	0.02	—	2,111
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,002	50,002	4.77	0.58	—	50,294
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	5,243	5,243	0.50	0.06	—	5,273
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	9,433	9,433	0.90	0.11	—	9,488
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	8,745	8,745	0.83	0.10	—	8,796
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	15,125	15,125	1.44	0.17	—	15,214
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	5,933	5,933	0.57	0.07	—	5,967
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	69.2	69.2	0.01	< 0.005	—	69.6
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	1,496	1,496	0.14	0.02	—	1,505

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	1,079	1,079	0.10	0.01	—	1,085
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	719	719	0.07	0.01	—	723
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	2,099	2,099	0.20	0.02	—	2,111
Total	—	—	—	—	—	—	—	—	—	—	—	—	50,002	50,002	4.77	0.58	—	50,294
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	868	868	0.08	0.01	—	873
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,562	1,562	0.15	0.02	—	1,571
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	1,448	1,448	0.14	0.02	—	1,456
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	2,504	2,504	0.24	0.03	—	2,519
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	982	982	0.09	0.01	—	988

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5	< 0.005	< 0.005	—	11.5
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.1	10.1	< 0.005	< 0.005	—	10.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	248	248	0.02	< 0.005	—	249
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	179	179	0.02	< 0.005	—	180
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	119	119	0.01	< 0.005	—	120
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	348	348	0.03	< 0.005	—	350
Total	—	—	—	—	—	—	—	—	—	—	—	—	8,278	8,278	0.79	0.10	—	8,327

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846

Unrefrige Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	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	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline /Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	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	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Office Park	0.26	0.13	2.33	1.96	0.01	0.18	—	0.18	0.18	—	0.18	—	2,785	2,785	0.25	0.01	—	2,793
Refrigerated Warehouse-No Rail	0.35	0.18	3.21	2.70	0.02	0.24	—	0.24	0.24	—	0.24	—	3,835	3,835	0.34	0.01	—	3,846
Unrefrigerated Warehouse-No Rail	1.12	0.56	10.2	8.56	0.06	0.77	—	0.77	0.77	—	0.77	—	12,162	12,162	1.08	0.02	—	12,196
User Defined Industrial	0.00	0.00	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	1.83	0.92	15.6	6.66	0.10	1.27	—	1.27	1.27	—	1.27	—	19,861	19,861	1.76	0.04	—	19,916
Single Family Housing	0.76	0.38	6.49	2.76	0.04	0.53	—	0.53	0.53	—	0.53	—	8,243	8,243	0.73	0.02	—	8,266
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	14.2	14.2	< 0.005	< 0.005	—	14.2
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Regional Shopping Center	0.03	0.01	0.26	0.22	< 0.005	0.02	—	0.02	0.02	—	0.02	—	306	306	0.03	< 0.005	—	307
High Turnover (Sit Down Restaurant)	0.11	0.05	1.00	0.84	0.01	0.08	—	0.08	0.08	—	0.08	—	1,188	1,188	0.11	< 0.005	—	1,191
Fast Food Restaurant with Drive Thru	0.07	0.04	0.66	0.56	< 0.005	0.05	—	0.05	0.05	—	0.05	—	792	792	0.07	< 0.005	—	794

City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	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	4.54	2.27	39.9	24.3	0.25	3.14	—	3.14	3.14	—	3.14	—	49,280	49,280	4.36	0.09	—	49,416
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	0.05	0.02	0.43	0.36	< 0.005	0.03	—	0.03	0.03	—	0.03	—	461	461	0.04	< 0.005	—	462
Refrigerated Warehouse-No Rail	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	635	635	0.06	< 0.005	—	637
Unrefrigerated Warehouse-No Rail	0.20	0.10	1.86	1.56	0.01	0.14	—	0.14	0.14	—	0.14	—	2,014	2,014	0.18	< 0.005	—	2,019
User Defined Industrial	0.00	0.00	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	0.33	0.17	2.86	1.22	0.02	0.23	—	0.23	0.23	—	0.23	—	3,288	3,288	0.29	0.01	—	3,297
Single Family Housing	0.14	0.07	1.19	0.50	0.01	0.10	—	0.10	0.10	—	0.10	—	1,365	1,365	0.12	< 0.005	—	1,368
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.35	2.35	< 0.005	< 0.005	—	2.35
Gasoline/Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Regional Shopping Center	0.01	< 0.005	0.05	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	50.7	50.7	< 0.005	< 0.005	—	50.9

High Turnover (Sit Down Restaurant)	0.02	0.01	0.18	0.15	< 0.005	0.01	—	0.01	0.01	—	0.01	—	197	197	0.02	< 0.005	—	197
Fast Food Restaurant with Drive Thru	0.01	0.01	0.12	0.10	< 0.005	0.01	—	0.01	0.01	—	0.01	—	131	131	0.01	< 0.005	—	131
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Parking Lot	0.00	0.00	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	0.83	0.41	7.28	4.44	0.05	0.57	—	0.57	0.57	—	0.57	—	8,159	8,159	0.72	0.02	—	8,181

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	45.7	42.7	3.41	363	0.02	0.27	—	0.27	0.35	—	0.35	—	1,160	1,160	0.05	0.30	—	1,251
Total	52.4	236	61.4	387	0.39	4.95	—	4.95	5.04	—	5.04	0.00	74,736	74,736	1.43	0.44	—	74,904

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	6.78	3.39	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Consumer Products	—	173	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	16.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	6.78	193	58.0	24.7	0.37	4.69	—	4.69	4.69	—	4.69	0.00	73,577	73,577	1.39	0.14	—	73,653
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.08	0.04	0.72	0.31	< 0.005	0.06	—	0.06	0.06	—	0.06	0.00	834	834	0.02	< 0.005	—	835
Consumer Products	—	31.6	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	3.02	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.71	5.34	0.43	45.3	< 0.005	0.03	—	0.03	0.04	—	0.04	—	132	132	0.01	0.03	—	142
Total	5.79	40.0	1.15	45.6	0.01	0.09	—	0.09	0.10	—	0.10	0.00	966	966	0.02	0.04	—	977

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	363	471	11.1	0.27	—	828
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	678	880	20.7	0.50	—	1,546
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,023	3,908	91.0	2.19	—	6,835
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	988	1,251	27.0	0.65	—	2,121
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	284	349	6.76	0.16	—	567
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.94	5.00	0.11	< 0.005	—	8.53
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	86.4	109	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	63.6	82.4	1.94	0.05	—	145

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.4	54.9	1.29	0.03	—	96.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	108	363	471	11.1	0.27	—	828
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	201	678	880	20.7	0.50	—	1,546
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	885	3,023	3,908	91.0	2.19	—	6,835
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	263	988	1,251	27.0	0.65	—	2,121
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.7	284	349	6.76	0.16	—	567
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	1.06	3.94	5.00	0.11	< 0.005	—	8.53

Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	23.0	86.4	109	2.37	0.06	—	186
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	18.9	63.6	82.4	1.94	0.05	—	145
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	12.6	42.4	54.9	1.29	0.03	—	96.5
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	10.2	10.2	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	1,579	5,548	7,127	162	3.91	—	12,352
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	17.9	60.2	78.0	1.84	0.04	—	137
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	33.3	112	146	3.43	0.08	—	256
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	146	501	647	15.1	0.36	—	1,132
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	43.5	164	207	4.48	0.11	—	351
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.9	47.0	57.8	1.12	0.03	—	93.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.18	0.65	0.83	0.02	< 0.005	—	1.41
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.68	0.88	0.02	< 0.005	—	1.55
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	3.81	14.3	18.1	0.39	0.01	—	30.7
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	3.12	10.5	13.6	0.32	0.01	—	24.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.08	7.01	9.10	0.21	0.01	—	16.0
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	1.68	1.68	< 0.005	< 0.005	—	1.69
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	261	918	1,180	26.9	0.65	—	2,045

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	159	0.00	159	15.9	0.00	—	555
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	230	0.00	230	23.0	0.00	—	805
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	1,011	0.00	1,011	101	0.00	—	3,538
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	1,311	0.00	1,311	131	0.00	—	4,586
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	428	0.00	428	42.8	0.00	—	1,498
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	4.24	0.00	4.24	0.42	0.00	—	14.8

Gasoline /Service	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	91.8	0.00	91.8	9.17	0.00	—	321
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	208	0.00	208	20.8	0.00	—	728
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	134	0.00	134	13.4	0.00	—	470
City Park	—	—	—	—	—	—	—	—	—	—	—	0.06	0.00	0.06	0.01	0.00	—	0.21
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	3,591	0.00	3,591	359	0.00	—	12,565
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	26.3	0.00	26.3	2.63	0.00	—	92.0
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	38.1	0.00	38.1	3.81	0.00	—	133
Unrefrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	167	0.00	167	16.7	0.00	—	586
User Defined Industrial	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	217	0.00	217	21.7	0.00	—	759
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	70.9	0.00	70.9	7.08	0.00	—	248
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.70	0.00	0.70	0.07	0.00	—	2.46
Gasoline/Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	15.2	0.00	15.2	1.52	0.00	—	53.1
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	34.4	0.00	34.4	3.44	0.00	—	120
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	22.2	0.00	22.2	2.22	0.00	—	77.7
City Park	—	—	—	—	—	—	—	—	—	—	—	0.01	0.00	0.01	< 0.005	0.00	—	0.03
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	595	0.00	595	59.4	0.00	—	2,080

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.77	0.77

Refrigerated	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	463	463
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	25.0	25.0
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	11.5	11.5
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.78	0.78
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	50.6	50.6
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	33.8	33.8
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	585	585
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Office Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
Refrigerated Warehouse-No Rail	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	76.7	76.7
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	4.13	4.13
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.90	1.90

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.13	0.13
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	8.39	8.39
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.59	5.59
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	96.9	96.9

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Office Park	888	669	327	283,479	7,525	5,670	2,769	2,401,918
Refrigerated Warehouse-No Rail	564	319	306	179,702	4,780	2,706	2,594	1,522,619
Unrefrigerated Warehouse-No Rail	4,426	3,725	3,675	1,539,648	37,498	31,561	31,138	13,045,437
User Defined Industrial	1,143	927	874	391,883	35,782	29,024	27,378	12,269,872
Condo/Townhouse	18,580	11,370	9,101	5,911,360	142,672	87,311	69,884	45,393,329

Single Family Housing	7,755	7,793	6,971	2,791,565	59,549	59,839	53,527	21,436,426
Strip Mall	330	237	75.2	102,332	2,796	2,011	637	867,056
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	5,649	35,198	35,198	5,143,326
Regional Shopping Center	5,320	13,204	8,133	2,499,577	20,262	56,219	34,626	10,019,460
High Turnover (Sit Down Restaurant)	1,662	2,155	2,811	692,267	5,554	18,260	23,821	3,642,197
Fast Food Restaurant with Drive Thru	4,074	7,285	4,182	1,660,093	11,305	61,729	35,436	8,013,735
City Park	2.00	2.55	2.85	803	16.9	21.6	24.1	6,800
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	2796
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	329
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	699

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	82

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
10305711	3,435,237	4,496,411	1,498,804	151,589

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Office Park	5,527,449	346	0.0330	0.0040	8,690,939
Refrigerated Warehouse-No Rail	9,945,872	346	0.0330	0.0040	11,966,710
Unrefrigerated Warehouse-No Rail	9,219,763	346	0.0330	0.0040	37,948,738
User Defined Industrial	0.00	346	0.0330	0.0040	0.00
Condo/Townhouse	15,946,932	346	0.0330	0.0040	61,972,315
Single Family Housing	6,255,109	346	0.0330	0.0040	25,720,146
Strip Mall	72,963	346	0.0330	0.0040	44,216

Gasoline/Service Station	64,628	346	0.0330	0.0040	290,596
Regional Shopping Center	1,577,323	346	0.0330	0.0040	955,877
High Turnover (Sit Down Restaurant)	1,137,107	346	0.0330	0.0040	3,705,461
Fast Food Restaurant with Drive Thru	758,071	346	0.0330	0.0040	2,470,307
City Park	0.00	346	0.0330	0.0040	0.00
Parking Lot	2,213,196	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Office Park	56,292,721	0.00
Refrigerated Warehouse-No Rail	105,043,925	0.00
Unrefrigerated Warehouse-No Rail	461,616,625	8,534,332
User Defined Industrial	0.00	0.00
Condo/Townhouse	137,089,385	20,519,706
Single Family Housing	34,261,926	12,397,322
Strip Mall	555,544	69,954
Gasoline/Service Station	637,531	0.00
Regional Shopping Center	12,009,896	1,755,840
High Turnover (Sit Down Restaurant)	9,842,688	0.00
Fast Food Restaurant with Drive Thru	6,561,792	0.00
City Park	0.00	2,020,880
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Office Park	295	0.00
Refrigerated Warehouse-No Rail	427	0.00
Unrefrigerated Warehouse-No Rail	1,876	0.00
User Defined Industrial	0.00	0.00
Condo/Townhouse	735	0.00
Single Family Housing	240	0.00
Strip Mall	7.88	0.00
Gasoline/Service Station	25.9	0.00
Regional Shopping Center	170	0.00
High Turnover (Sit Down Restaurant)	386	0.00
Fast Food Restaurant with Drive Thru	249	0.00
City Park	0.11	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Office Park	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Office Park	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Refrigerated Warehouse-No Rail	Cold storage	User Defined	150	7.50	7.50	7.50	25.0
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0

Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	R-410A	2,088	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A

Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9
Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8

Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985
Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076

Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5
Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—

Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—
2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage based on Project site plan
Operations: Vehicle Data	Updated based on Project traffic study
Operations: Fleet Mix	Fleet mix adjusted based on Project traffic study
Operations: Hearths	No wood-burning stoves or fireplaces per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater

14822 Rich Haven Ph2 Ops Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14822 Rich Haven Ph2 Ops
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	20.8
Location	34.01248843179461, -117.57182350609266
County	San Bernardino-South Coast
City	Ontario
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5261
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southern California Gas

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	603	Dwelling Unit	81.3	1,175,850	708,721	—	1,996	—
Condo/Townhouse	2,000	Dwelling Unit	55.9	2,120,000	242,283	—	6,620	—
City Park	27.0	Acre	27.0	0.00	1,176,120	1,176,120	—	—

Regional Shopping Center	526	1000sqft	12.1	525,990	342,382	—	—	—
High Turnover (Sit Down Restaurant)	105	1000sqft	2.42	105,198	0.00	—	—	—
Fast Food Restaurant with Drive Thru	70.1	1000sqft	1.61	70,132	0.00	—	—	—
Gasoline/Service Station	48.0	Pump	0.16	6,776	0.00	—	—	—
Parking Lot	54.5	Acre	54.5	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	294	363	244	1,941	4.54	7.50	144	152	7.36	25.7	33.1	2,920	529,145	532,064	321	22.0	1,437	548,067
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	257	327	256	1,519	4.27	7.41	144	152	7.24	25.7	33.0	2,920	502,251	505,171	322	22.6	156	520,102
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	180	260	142	1,028	2.28	3.45	77.0	80.5	3.37	13.7	17.1	2,920	275,935	278,855	312	13.6	424	291,117

Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	32.9	47.4	25.9	188	0.42	0.63	14.1	14.7	0.62	2.50	3.12	483	45,684	46,168	51.6	2.25	70.3	48,198

2.5. Operations Emissions by Sector, Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	268	247	185	1,736	4.17	2.81	144	147	2.63	25.7	28.3	—	428,503	428,503	21.9	20.5	1,315	436,487
Area	23.5	114	38.4	194	0.24	3.06	—	3.06	3.09	—	3.09	0.00	47,109	47,109	0.90	0.14	—	47,172
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	294	363	244	1,941	4.54	7.50	144	152	7.36	25.7	33.1	2,920	529,145	532,064	321	22.0	1,437	548,067
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	251	230	198	1,492	3.91	2.81	144	147	2.64	25.7	28.4	—	402,131	402,131	22.9	21.2	34.1	409,057
Area	4.29	96.3	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	257	327	256	1,519	4.27	7.41	144	152	7.24	25.7	33.0	2,920	502,251	505,171	322	22.6	156	520,102
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	164	152	117	893	2.13	1.55	77.0	78.6	1.45	13.7	15.2	—	218,854	218,854	14.0	12.2	303	223,147
Area	13.4	107	3.66	123	0.02	0.27	—	0.27	0.29	—	0.29	0.00	3,548	3,548	0.08	0.04	—	3,562
Energy	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	51,901	51,901	4.77	0.35	—	52,125
Water	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Waste	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Total	180	260	142	1,028	2.28	3.45	77.0	80.5	3.37	13.7	17.1	2,920	275,935	278,855	312	13.6	424	291,117
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	30.0	27.8	21.4	163	0.39	0.28	14.1	14.3	0.26	2.50	2.77	—	36,234	36,234	2.32	2.02	50.1	36,944
Area	2.45	19.5	0.67	22.5	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	587	587	0.01	0.01	—	590
Energy	0.43	0.22	3.75	2.07	0.02	0.30	—	0.30	0.30	—	0.30	—	8,593	8,593	0.79	0.06	—	8,630
Water	—	—	—	—	—	—	—	—	—	—	—	63.9	270	334	6.57	0.16	—	546
Waste	—	—	—	—	—	—	—	—	—	—	—	420	0.00	420	41.9	0.00	—	1,468
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	20.1
Total	32.9	47.4	25.9	188	0.42	0.63	14.1	14.7	0.62	2.50	3.12	483	45,684	46,168	51.6	2.25	70.3	48,198

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	21.7	19.9	15.4	145	0.35	0.24	2.06	2.30	0.22	0.64	0.86	—	36,251	36,251	1.80	1.72	111	36,919
Condo/Townhouse	42.4	39.0	30.1	284	0.69	0.46	4.03	4.49	0.43	1.25	1.68	—	70,885	70,885	3.53	3.36	218	72,192
City Park	0.23	0.21	0.17	1.63	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	413	413	0.02	0.02	1.27	420
Regional Shopping Center	60.6	57.1	32.9	290	0.62	0.44	3.52	3.95	0.41	1.09	1.50	—	63,315	63,315	4.18	3.48	190	64,645
High Turnover (Sit Down Restaurant)	35.3	32.3	26.3	251	0.62	0.41	3.63	4.04	0.39	1.12	1.51	—	63,688	63,688	3.05	2.96	196	64,843
Fast Food Restaurant with Drive Thru	91.5	83.8	68.2	650	1.61	1.07	9.40	10.5	1.00	2.91	3.92	—	164,965	164,965	7.89	7.67	509	167,956
Gasoline /Service Station	16.1	14.7	12.0	114	0.28	0.19	1.65	1.84	0.18	0.51	0.69	—	28,986	28,986	1.39	1.35	89.4	29,512
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	268	247	185	1,736	4.17	2.81	24.3	27.1	2.63	7.53	10.2	—	428,503	428,503	21.9	20.5	1,315	436,487
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	20.3	18.5	16.5	124	0.33	0.24	2.06	2.30	0.22	0.64	0.86	—	34,015	34,015	1.89	1.77	2.89	34,593
Condo/Townhouse	39.7	36.3	32.3	243	0.65	0.46	4.03	4.49	0.43	1.25	1.68	—	66,513	66,513	3.69	3.47	5.65	67,644
City Park	0.21	0.20	0.18	1.38	< 0.005	< 0.005	0.02	0.03	< 0.005	0.01	0.01	—	387	387	0.02	0.02	0.03	394

Regional Shopping Center	56.6	52.9	35.1	261	0.58	0.44	3.52	3.95	0.41	1.09	1.50	—	59,520	59,520	4.47	3.59	4.93	60,705
High Turnover (Sit Down Restaurant)	33.1	30.1	28.3	213	0.58	0.41	3.63	4.04	0.39	1.12	1.51	—	59,747	59,747	3.18	3.06	5.09	60,742
Fast Food Restaurant with Drive Thru	85.8	78.0	73.2	552	1.51	1.07	9.40	10.5	1.00	2.91	3.92	—	154,756	154,756	8.23	7.91	13.2	157,334
Gasoline /Service Station	15.1	13.7	12.9	97.0	0.26	0.19	1.65	1.84	0.18	0.51	0.69	—	27,193	27,193	1.45	1.39	2.32	27,646
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	251	230	198	1,492	3.91	2.81	24.3	27.1	2.64	7.53	10.2	—	402,131	402,131	22.9	21.2	34.1	409,057
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	3.61	3.29	3.00	23.0	0.06	0.04	0.37	0.41	0.04	0.11	0.15	—	5,583	5,583	0.31	0.29	7.82	5,685
Condo/Townhouse	6.26	5.71	5.20	39.9	0.10	0.07	0.64	0.71	0.07	0.20	0.27	—	9,683	9,683	0.53	0.50	13.6	9,860
City Park	0.02	0.02	0.02	0.14	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	34.7	34.7	< 0.005	< 0.005	0.05	35.4
Regional Shopping Center	5.92	5.55	3.63	27.3	0.06	0.04	0.35	0.39	0.04	0.11	0.15	—	5,404	5,404	0.42	0.33	7.35	5,521
High Turnover (Sit Down Restaurant)	3.69	3.43	2.57	19.5	0.05	0.03	0.28	0.31	0.03	0.09	0.12	—	4,261	4,261	0.28	0.24	5.88	4,346

Fast Food Restaurant with Drive Thru	8.73	8.13	5.85	44.3	0.10	0.07	0.61	0.68	0.07	0.19	0.26	—	9,406	9,406	0.65	0.54	12.9	9,598
Gasoline /Service Station	1.75	1.63	1.16	8.82	0.02	0.01	0.12	0.14	0.01	0.04	0.05	—	1,862	1,862	0.13	0.11	2.56	1,900
Parking Lot	0.00	0.00	0.00	0.00	0.00	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	30.0	27.8	21.4	163	0.39	0.28	2.37	2.65	0.26	0.73	1.00	—	36,234	36,234	2.32	2.02	50.1	36,944

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.41	0.05	—	4,378
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	9,198	9,198	0.88	0.11	—	9,251
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	4,853	4,853	0.46	0.06	—	4,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	3,499	3,499	0.33	0.04	—	3,519

Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	2,333	2,333	0.22	0.03	—	2,346
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,973	1,973	0.19	0.02	—	1,984
Total	—	—	—	—	—	—	—	—	—	—	—	—	26,268	26,268	2.50	0.30	—	26,421
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	4,352	4,352	0.41	0.05	—	4,378
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	9,198	9,198	0.88	0.11	—	9,251
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	4,853	4,853	0.46	0.06	—	4,882
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	3,499	3,499	0.33	0.04	—	3,519
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	2,333	2,333	0.22	0.03	—	2,346
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	61.3	61.3	0.01	< 0.005	—	61.7

Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	1,973	1,973	0.19	0.02	—	1,984
Total	—	—	—	—	—	—	—	—	—	—	—	—	26,268	26,268	2.50	0.30	—	26,421
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	721	721	0.07	0.01	—	725
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	1,523	1,523	0.15	0.02	—	1,532
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	804	804	0.08	0.01	—	808
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	579	579	0.06	0.01	—	583
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	386	386	0.04	< 0.005	—	388
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	—	10.1	10.1	< 0.005	< 0.005	—	10.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	327	327	0.03	< 0.005	—	328
Total	—	—	—	—	—	—	—	—	—	—	—	—	4,349	4,349	0.41	0.05	—	4,374

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.28	4.76	2.03	0.03	0.39	—	0.39	0.39	—	0.39	—	6,047	6,047	0.54	0.01	—	6,064
Condo/Townhouse	1.11	0.56	9.51	4.05	0.06	0.77	—	0.77	0.77	—	0.77	—	12,077	12,077	1.07	0.02	—	12,111
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.09	0.05	0.83	0.70	< 0.005	0.06	—	0.06	0.06	—	0.06	—	994	994	0.09	< 0.005	—	997
High Turnover (Sit Down Restaurant)	0.36	0.18	3.23	2.71	0.02	0.25	—	0.25	0.25	—	0.25	—	3,853	3,853	0.34	0.01	—	3,863
Fast Food Restaurant with Drive Thru	0.24	0.12	2.15	1.81	0.01	0.16	—	0.16	0.16	—	0.16	—	2,568	2,568	0.23	< 0.005	—	2,576
Gasoline /Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Parking Lot	0.00	0.00	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	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	25,632	25,632	2.27	0.05	—	25,703
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.56	0.28	4.76	2.03	0.03	0.39	—	0.39	0.39	—	0.39	—	6,047	6,047	0.54	0.01	—	6,064

Condo/Townhouse	1.11	0.56	9.51	4.05	0.06	0.77	—	0.77	0.77	—	0.77	—	12,077	12,077	1.07	0.02	—	12,111
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.09	0.05	0.83	0.70	< 0.005	0.06	—	0.06	0.06	—	0.06	—	994	994	0.09	< 0.005	—	997
High Turnover (Sit Down Restaurant)	0.36	0.18	3.23	2.71	0.02	0.25	—	0.25	0.25	—	0.25	—	3,853	3,853	0.34	0.01	—	3,863
Fast Food Restaurant with Drive Thru	0.24	0.12	2.15	1.81	0.01	0.16	—	0.16	0.16	—	0.16	—	2,568	2,568	0.23	< 0.005	—	2,576
Gasoline/Service Station	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	93.1	93.1	0.01	< 0.005	—	93.4
Parking Lot	0.00	0.00	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	2.36	1.18	20.6	11.4	0.13	1.63	—	1.63	1.63	—	1.63	—	25,632	25,632	2.27	0.05	—	25,703
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.10	0.05	0.87	0.37	0.01	0.07	—	0.07	0.07	—	0.07	—	1,001	1,001	0.09	< 0.005	—	1,004
Condo/Townhouse	0.20	0.10	1.74	0.74	0.01	0.14	—	0.14	0.14	—	0.14	—	2,000	2,000	0.18	< 0.005	—	2,005
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Regional Shopping Center	0.02	0.01	0.15	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	—	165	165	0.01	< 0.005	—	165

High Turnover (Sit Down Restaurant)	0.06	0.03	0.59	0.49	< 0.005	0.04	—	0.04	0.04	—	0.04	—	638	638	0.06	< 0.005	—	640
Fast Food Restaurant with Drive Thru	0.04	0.02	0.39	0.33	< 0.005	0.03	—	0.03	0.03	—	0.03	—	425	425	0.04	< 0.005	—	426
Gasoline /Service Station	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	15.4	15.4	< 0.005	< 0.005	—	15.5
Parking Lot	0.00	0.00	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	0.43	0.22	3.75	2.07	0.02	0.30	—	0.30	0.30	—	0.30	—	4,244	4,244	0.38	0.01	—	4,255

4.3. Area Emissions by Source

4.3.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Source	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.29	2.15	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Consumer Products	—	86.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	19.2	18.0	1.67	179	0.01	0.09	—	0.09	0.12	—	0.12	—	521	521	0.02	0.05	—	536

Total	23.5	114	38.4	194	0.24	3.06	—	3.06	3.09	—	3.09	0.00	47,109	47,109	0.90	0.14	—	47,172
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	4.29	2.15	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Consumer Products	—	86.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	7.63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	4.29	96.3	36.7	15.6	0.23	2.97	—	2.97	2.97	—	2.97	0.00	46,587	46,587	0.88	0.09	—	46,635
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.05	0.03	0.46	0.20	< 0.005	0.04	—	0.04	0.04	—	0.04	0.00	528	528	0.01	< 0.005	—	529
Consumer Products	—	15.8	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	1.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	2.40	2.25	0.21	22.3	< 0.005	0.01	—	0.01	0.02	—	0.02	—	59.1	59.1	< 0.005	0.01	—	60.8
Total	2.45	19.5	0.67	22.5	< 0.005	0.05	—	0.05	0.05	—	0.05	0.00	587	587	0.01	0.01	—	590

4.4. Water Emissions by Land Use

4.4.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.2	232	280	4.96	0.12	—	440
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	160	562	722	16.4	0.40	—	1,251
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	211	211	0.02	< 0.005	—	212
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	74.7	279	354	7.68	0.19	—	601
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	61.2	206	267	6.29	0.15	—	470
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	40.8	137	178	4.20	0.10	—	313
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	48.2	232	280	4.96	0.12	—	440

Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	160	562	722	16.4	0.40	—	1,251
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	211	211	0.02	< 0.005	—	212
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	74.7	279	354	7.68	0.19	—	601
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	61.2	206	267	6.29	0.15	—	470
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	40.8	137	178	4.20	0.10	—	313
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	1.22	4.12	5.34	0.13	< 0.005	—	9.38
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	386	1,633	2,018	39.7	0.96	—	3,297
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	7.97	38.5	46.4	0.82	0.02	—	72.9
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	26.4	93.1	120	2.72	0.07	—	207
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	35.0	35.0	< 0.005	< 0.005	—	35.2
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	12.4	46.2	58.6	1.27	0.03	—	99.5

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	10.1	34.1	44.3	1.04	0.03	—	77.8
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	6.75	22.8	29.5	0.69	0.02	—	51.9
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	0.20	0.68	0.88	0.02	< 0.005	—	1.55
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	63.9	270	334	6.57	0.16	—	546

4.5. Waste Emissions by Land Use

4.5.2. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	314	0.00	314	31.4	0.00	—	1,099
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	797	0.00	797	79.7	0.00	—	2,789
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.13	0.00	—	4.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	298	0.00	298	29.7	0.00	—	1,041

High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	675	0.00	675	67.4	0.00	—	2,360
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	435	0.00	435	43.5	0.00	—	1,523
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	314	0.00	314	31.4	0.00	—	1,099
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	797	0.00	797	79.7	0.00	—	2,789
City Park	—	—	—	—	—	—	—	—	—	—	—	1.25	0.00	1.25	0.13	0.00	—	4.38
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	298	0.00	298	29.7	0.00	—	1,041
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	675	0.00	675	67.4	0.00	—	2,360
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	435	0.00	435	43.5	0.00	—	1,523

Gasoline Station	—	—	—	—	—	—	—	—	—	—	—	13.9	0.00	13.9	1.39	0.00	—	48.8
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	2,534	0.00	2,534	253	0.00	—	8,866
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	52.0	0.00	52.0	5.20	0.00	—	182
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	132	0.00	132	13.2	0.00	—	462
City Park	—	—	—	—	—	—	—	—	—	—	—	0.21	0.00	0.21	0.02	0.00	—	0.72
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	49.3	0.00	49.3	4.93	0.00	—	172
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	112	0.00	112	11.2	0.00	—	391
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	72.1	0.00	72.1	7.20	0.00	—	252
Gasoline /Service Station	—	—	—	—	—	—	—	—	—	—	—	2.31	0.00	2.31	0.23	0.00	—	8.08
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	420	0.00	420	41.9	0.00	—	1,468

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00	2.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.3	39.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	7.53	7.53
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.6	13.6

Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.00	2.00
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	39.3	39.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	121	121
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.25	1.25
Condo/Townhouse	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.25	2.25
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33	0.33
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.77	9.77
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	6.51	6.51
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	20.1	20.1

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Equipment Type	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Vegetation	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.2. Above and Belowground Carbon Accumulation by Land Use Type - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

Criteria Pollutants (lb/day for daily, ton/yr for annual) and GHGs (lb/day for daily, MT/yr for annual)

Species	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Sequest	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Avoided	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Sequestered	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Removed	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Single Family Housing	5,688	5,716	5,113	2,047,670	43,679	43,897	39,266	15,724,054
Condo/Townhouse	11,178	6,798	5,418	3,551,241	85,836	52,202	41,605	27,269,982
City Park	22.0	52.9	59.1	11,580	186	448	501	98,114
Regional Shopping Center	10,311	17,588	2,846	3,753,717	39,270	74,884	12,118	14,774,788
High Turnover (Sit Down Restaurant)	5,399	6,998	9,127	2,248,423	18,042	59,296	77,336	11,828,194
Fast Food Restaurant with Drive Thru	13,218	23,642	13,575	5,386,702	36,678	200,316	115,021	26,005,007
Gasoline/Service Station	2,496	4,154	4,154	1,083,962	5,649	35,198	35,198	5,143,326
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	513

Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	60
Condo/Townhouse	—
Wood Fireplaces	0
Gas Fireplaces	1700
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	200

5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
6674096.25	2,224,699	1,062,144	354,048	142,441

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	250

5.11. Operational Energy Consumption

5.11.1. Unmitigated

Electricity (kWh/yr) and CO2 and CH4 and N2O and Natural Gas (kBTU/yr)

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	4,588,602	346	0.0330	0.0040	18,867,699
Condo/Townhouse	9,697,131	346	0.0330	0.0040	37,684,594

City Park	0.00	346	0.0330	0.0040	0.00
Regional Shopping Center	5,117,006	346	0.0330	0.0040	3,100,969
High Turnover (Sit Down Restaurant)	3,688,943	346	0.0330	0.0040	12,021,066
Fast Food Restaurant with Drive Thru	2,459,295	346	0.0330	0.0040	8,014,044
Gasoline/Service Station	64,628	346	0.0330	0.0040	290,596
Parking Lot	2,079,642	346	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	25,133,749	13,910,646
Condo/Townhouse	83,362,350	4,755,487
City Park	0.00	41,972,125
Regional Shopping Center	38,961,406	5,498,355
High Turnover (Sit Down Restaurant)	31,931,139	0.00
Fast Food Restaurant with Drive Thru	21,287,426	0.00
Gasoline/Service Station	637,531	0.00
Parking Lot	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	176	0.00
Condo/Townhouse	447	0.00

City Park	2.32	0.00
Regional Shopping Center	552	0.00
High Turnover (Sit Down Restaurant)	1,252	0.00
Fast Food Restaurant with Drive Thru	808	0.00
Gasoline/Service Station	25.9	0.00
Parking Lot	0.00	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Condo/Townhouse	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Condo/Townhouse	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
Regional Shopping Center	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

Equipment Type	Fuel Type	Number per Day	Hours per Day	Hours per Year	Horsepower	Load Factor

5.16.2. Process Boilers

Equipment Type	Fuel Type	Number	Boiler Rating (MMBtu/hr)	Daily Heat Input (MMBtu/day)	Annual Heat Input (MMBtu/yr)

5.17. User Defined

Equipment Type	Fuel Type
—	—

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

Cal-Adapt midcentury 2040–2059 average projections for four hazards are reported below for your project location. These are under Representation Concentration Pathway (RCP) 8.5 which assumes GHG emissions will continue to rise strongly through 2050 and then plateau around 2100.

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	20.0	annual days of extreme heat
Extreme Precipitation	3.95	annual days with precipitation above 20 mm
Sea Level Rise	0.00	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.
Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about ¾ an inch of rain, which would be light to moderate rainfall if received over a full day or heavy rain if received over a period of 2 to 4 hours. Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Sea Level Rise data are for the grid cell in which your project are located. The projections are from Radke et al. (2017), as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider different increments of sea level rise coupled with extreme storm events. Users may select from four model simulations to view the range in potential inundation depth for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 50 meters (m) by 50 m, or about 164 feet (ft) by 164 ft.
Wildfire data are for the grid cell in which your project are located. The projections are from UC Davis, as reported in Cal-Adapt (2040–2059 average under RCP 8.5), and consider historical data of climate, vegetation, population density, and large (> 400 ha) fire history. Users may select from four model simulations to view the range in potential wildfire probabilities for the grid cell. The four simulations make different assumptions about expected rainfall and temperature are: Warmer/drier (HadGEM2-ES), Cooler/wetter (CNRM-CM5), Average conditions (CanESM2), Range of different rainfall and temperature possibilities (MIROC5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

6.2. Initial Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	0	0	0	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	2	1	1	3
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	N/A	N/A	N/A	N/A

Drought	N/A	N/A	N/A	N/A
Snowpack	N/A	N/A	N/A	N/A
Air Quality	1	1	1	2

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.
The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.
The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	84.6
AQ-PM	95.6
AQ-DPM	57.0
Drinking Water	93.3
Lead Risk Housing	7.89
Pesticides	64.8
Toxic Releases	71.4
Traffic	14.2
Effect Indicators	—
CleanUp Sites	7.71
Groundwater	81.4
Haz Waste Facilities/Generators	81.9

Impaired Water Bodies	43.8
Solid Waste	35.7
Sensitive Population	—
Asthma	58.6
Cardio-vascular	79.3
Low Birth Weights	68.1
Socioeconomic Factor Indicators	—
Education	51.5
Housing	70.8
Linguistic	15.6
Poverty	40.3
Unemployment	40.6

7.2. Healthy Places Index Scores

The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	50.9816502
Employed	66.62389324
Median HI	72.65494675
Education	—
Bachelor's or higher	43.46208136
High school enrollment	100
Preschool enrollment	17.18208649
Transportation	—
Auto Access	93.63531374
Active commuting	23.14897985

Social	—
2-parent households	66.79070961
Voting	49.36481458
Neighborhood	—
Alcohol availability	65.76414731
Park access	55.29321186
Retail density	20.00513281
Supermarket access	52.71397408
Tree canopy	13.73027076
Housing	—
Homeownership	73.48902862
Housing habitability	38.94520724
Low-inc homeowner severe housing cost burden	67.22699859
Low-inc renter severe housing cost burden	48.14577185
Uncrowded housing	46.38778391
Health Outcomes	—
Insured adults	44.20633902
Arthritis	84.5
Asthma ER Admissions	52.8
High Blood Pressure	89.6
Cancer (excluding skin)	77.2
Asthma	51.9
Coronary Heart Disease	88.8
Chronic Obstructive Pulmonary Disease	81.8
Diagnosed Diabetes	68.9
Life Expectancy at Birth	43.6
Cognitively Disabled	92.5

Physically Disabled	86.7
Heart Attack ER Admissions	10.7
Mental Health Not Good	52.8
Chronic Kidney Disease	85.5
Obesity	50.5
Pedestrian Injuries	19.6
Physical Health Not Good	65.0
Stroke	84.7
Health Risk Behaviors	—
Binge Drinking	15.4
Current Smoker	54.4
No Leisure Time for Physical Activity	62.4
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	51.6
Elderly	87.4
English Speaking	59.0
Foreign-born	27.3
Outdoor Workers	53.0
Climate Change Adaptive Capacity	—
Impervious Surface Cover	70.3
Traffic Density	21.2
Traffic Access	23.0
Other Indices	—
Hardship	44.7
Other Decision Support	—

2016 Voting	55.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	76.0
Healthy Places Index Score for Project Location (b)	53.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	Yes
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

a: The maximum CalEnviroScreen score is 100. A high score (i.e., greater than 50) reflects a higher pollution burden compared to other census tracts in the state.
b: The maximum Health Places Index score is 100. A high score (i.e., greater than 50) reflects healthier community conditions compared to other census tracts in the state.

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Acreage adjusted based on Project site plan
Operations: Vehicle Data	Trip rates adjusted based on Project traffic study
Operations: Hearths	Project will not use wood fireplaces or wood stoves per SCAQMD Rule 445
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater.

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APPENDIX 4.3:

EMFAC2021

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2023
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (SC)	2023	HHDT	Aggregate	Aggregate	Gasoline	7.139920774	223.2106421	0.06183047	61.8304705	317791.1215	223.2106421	1888049.604	5.94	HHDT
San Bernardino (SC)	2023	HHDT	Aggregate	Aggregate	Diesel	13684.27912	1731847.924	292.3325073	292332.5073		1731847.924			
San Bernardino (SC)	2023	HHDT	Aggregate	Aggregate	Electricity	11.071794	690.5331854	0	0		690.5331854			
San Bernardino (SC)	2023	HHDT	Aggregate	Aggregate	Natural Gas	2370.144029	155287.9364	25.39678372	25396.78372		155287.9364			
San Bernardino (SC)	2023	LDA	Aggregate	Aggregate	Gasoline	461483.7292	20223414.17	692.3245964	692324.5964	703217.7643	20223414.17	21577861.55	30.68	LDA
San Bernardino (SC)	2023	LDA	Aggregate	Aggregate	Diesel	1109.597168	40502.09099	0.947730081	947.7300814		40502.09099			
San Bernardino (SC)	2023	LDA	Aggregate	Aggregate	Electricity	15706.1209	729284.3787	0	0		729284.3787			
San Bernardino (SC)	2023	LDA	Aggregate	Aggregate	Plug-in Hybrid	11324.38067	584660.9102	9.945437763	9945.437763		584660.9102			
San Bernardino (SC)	2023	LDT1	Aggregate	Aggregate	Gasoline	41702.74967	1435035.032	59.56936874	59569.36874	59603.2156	1435035.032	1438685.032	24.14	LDT1
San Bernardino (SC)	2023	LDT1	Aggregate	Aggregate	Diesel	11.94633759	180.7506847	0.007425144	7.425143634		180.7506847			
San Bernardino (SC)	2023	LDT1	Aggregate	Aggregate	Electricity	40.25061846	1772.449638	0	0		1772.449638			
San Bernardino (SC)	2023	LDT1	Aggregate	Aggregate	Plug-in Hybrid	32.95928492	1696.799492	0.026421715	26.42171463		1696.799492			
San Bernardino (SC)	2023	LDT2	Aggregate	Aggregate	Gasoline	187695.2776	7684041.942	325.7245496	325724.5496	327412.4965	7684041.942	7798312.591	23.82	LDT2
San Bernardino (SC)	2023	LDT2	Aggregate	Aggregate	Diesel	481.5963709	21452.95771	0.659664085	659.664085		21452.95771			
San Bernardino (SC)	2023	LDT2	Aggregate	Aggregate	Electricity	809.1431596	29454.51408	0	0		29454.51408			
San Bernardino (SC)	2023	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1266.994818	63363.17755	1.028282788	1028.282788		63363.17755			
San Bernardino (SC)	2023	LHDT1	Aggregate	Aggregate	Gasoline	17369.10468	636669.4873	48.08913849	48089.13849	69265.91752	636669.4873	1070433.704	15.45	LHDT1
San Bernardino (SC)	2023	LHDT1	Aggregate	Aggregate	Diesel	11340.4221	433764.2167	21.17677903	21176.77903		433764.2167			
San Bernardino (SC)	2023	LHDT2	Aggregate	Aggregate	Gasoline	2940.213764	104644.4628	8.847465361	8847.465361	19637.22878	104644.4628	288802.0099	14.71	LHDT2
San Bernardino (SC)	2023	LHDT2	Aggregate	Aggregate	Diesel	4748.518724	184157.5472	10.78976342	10789.76342		184157.5472			
San Bernardino (SC)	2023	MCY	Aggregate	Aggregate	Gasoline	20689.98168	123448.5709	2.952535443	2952.535443	2952.535443	123448.5709	123448.5709	41.81	MCY
San Bernardino (SC)	2023	MDV	Aggregate	Aggregate	Gasoline	147303.3129	5795658.803	301.7951895	301795.1895	305825.909	5795658.803	5947370.317	19.45	MDV
San Bernardino (SC)	2023	MDV	Aggregate	Aggregate	Diesel	1912.856517	78101.9574	3.325595213	3325.595213		78101.9574			
San Bernardino (SC)	2023	MDV	Aggregate	Aggregate	Electricity	883.4710394	32153.68244	0	0		32153.68244			
San Bernardino (SC)	2023	MDV	Aggregate	Aggregate	Plug-in Hybrid	823.221551	41455.87402	0.705124294	705.1242942		41455.87402			
San Bernardino (SC)	2023	MH	Aggregate	Aggregate	Gasoline	3595.119651	31990.03643	6.518197308	6518.197308	7709.885285	31990.03643	44195.40661	5.73	MH
San Bernardino (SC)	2023	MH	Aggregate	Aggregate	Diesel	1340.055605	12205.37018	1.191687977	1191.687977		12205.37018			
San Bernardino (SC)	2023	MHDT	Aggregate	Aggregate	Gasoline	1500.364507	79642.61703	15.40897049	15408.97049	87900.59877	79642.61703	729331.6703	8.30	MHDT
San Bernardino (SC)	2023	MHDT	Aggregate	Aggregate	Diesel	14608.25407	640403.2715	71.4372525	71437.2525		640403.2715			
San Bernardino (SC)	2023	MHDT	Aggregate	Aggregate	Electricity	9.224784632	203.8722795	0	0		203.8722795			
San Bernardino (SC)	2023	MHDT	Aggregate	Aggregate	Natural Gas	184.1702325	9081.909565	1.05437579	1054.37579		9081.909565			
San Bernardino (SC)	2023	OBUS	Aggregate	Aggregate	Gasoline	384.9686335	16562.55757	3.251674362	3251.674362	5514.43375	16562.55757	33644.16636	6.10	OBUS
San Bernardino (SC)	2023	OBUS	Aggregate	Aggregate	Diesel	208.3404962	15154.83567	2.045655905	2045.655905		15154.83567			
San Bernardino (SC)	2023	OBUS	Aggregate	Aggregate	Natural Gas	31.52138873	1926.773124	0.217103483	217.1034832		1926.773124			
San Bernardino (SC)	2023	SBUS	Aggregate	Aggregate	Gasoline	294.5939953	13805.92037	1.544513624	1544.513624	4926.826262	13805.92037	31599.12518	6.41	SBUS
San Bernardino (SC)	2023	SBUS	Aggregate	Aggregate	Diesel	382.1050011	8002.390505	1.089878604	1089.878604		8002.390505			
San Bernardino (SC)	2023	SBUS	Aggregate	Aggregate	Electricity	0.69336851	8.065464225	0	0		8.065464225			
San Bernardino (SC)	2023	SBUS	Aggregate	Aggregate	Natural Gas	385.616886	9782.748834	2.292434033	2292.434033		9782.748834			
San Bernardino (SC)	2023	UBUS	Aggregate	Aggregate	Gasoline	54.60967225	5243.249002	0.429264999	429.2649994	8490.322036	5243.249002	40042.47057	4.72	UBUS
San Bernardino (SC)	2023	UBUS	Aggregate	Aggregate	Diesel	4.556959009	449.8374364	0.043172716	43.17271551		449.8374364			
San Bernardino (SC)	2023	UBUS	Aggregate	Aggregate	Electricity	0.433186591	43.12764189	0	0		43.12764189			
San Bernardino (SC)	2023	UBUS	Aggregate	Aggregate	Natural Gas	249.7401785	34306.25649	8.017884321	8017.884321		34306.25649			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2024
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (SC)	2024	HHDT	Aggregate	Aggregate	Gasoline	5.565987525	200.7100937	0.053685222	53.68522156	320576.6084	200.7100937	1931561.832	6.03	HHDT
San Bernardino (SC)	2024	HHDT	Aggregate	Aggregate	Diesel	14231.95658	1766161.303	294.8811952	294881.1952		1766161.303			
San Bernardino (SC)	2024	HHDT	Aggregate	Aggregate	Electricity	48.62871821	4853.771805	0	0		4853.771805			
San Bernardino (SC)	2024	HHDT	Aggregate	Aggregate	Natural Gas	2469.470738	160346.0479	25.64172796	25641.72796		160346.0479			
San Bernardino (SC)	2024	LDA	Aggregate	Aggregate	Gasoline	459317.1397	20167734.04	678.0067332	678006.7332	689480.9135	20167734.04	21769357.53	31.57	LDA
San Bernardino (SC)	2024	LDA	Aggregate	Aggregate	Diesel	1047.589492	37687.90898	0.878080701	878.0807006		37687.90898			
San Bernardino (SC)	2024	LDA	Aggregate	Aggregate	Electricity	19287.2826	922159.8322	0	0		922159.8322			
San Bernardino (SC)	2024	LDA	Aggregate	Aggregate	Plug-in Hybrid	12500.45848	641775.7563	10.5960996	10596.0996		641775.7563			
San Bernardino (SC)	2024	LDT1	Aggregate	Aggregate	Gasoline	40725.35771	1412436.812	57.61437754	57614.37754	57660.77698	1412436.812	1417994.863	24.59	LDT1
San Bernardino (SC)	2024	LDT1	Aggregate	Aggregate	Diesel	10.72175816	158.8104429	0.006542477	6.542476778		158.8104429			
San Bernardino (SC)	2024	LDT1	Aggregate	Aggregate	Electricity	58.29951204	2744.162081	0	0		2744.162081			
San Bernardino (SC)	2024	LDT1	Aggregate	Aggregate	Plug-in Hybrid	51.79076029	2655.077851	0.039856963	39.85696305		2655.077851			
San Bernardino (SC)	2024	LDT2	Aggregate	Aggregate	Gasoline	192654.7494	7946861.936	328.2807397	328280.7397	330225.39	7946861.936	8092457.996	24.51	LDT2
San Bernardino (SC)	2024	LDT2	Aggregate	Aggregate	Diesel	520.896721	23279.78377	0.7022627	702.2627003		23279.78377			
San Bernardino (SC)	2024	LDT2	Aggregate	Aggregate	Electricity	1199.246991	43242.4945	0	0		43242.4945			
San Bernardino (SC)	2024	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1594.625518	79073.78143	1.24238757	1242.38757		79073.78143			
San Bernardino (SC)	2024	LHDT1	Aggregate	Aggregate	Gasoline	17179.49082	637558.6823	46.93129933	46931.29933	68120.12603	637558.6823	1077239.622	15.81	LHDT1
San Bernardino (SC)	2024	LHDT1	Aggregate	Aggregate	Diesel	11382.09786	435758.4326	21.1888267	21188.8267		435758.4326			
San Bernardino (SC)	2024	LHDT1	Aggregate	Aggregate	Electricity	52.7403112	3922.506902	0	0		3922.506902			
San Bernardino (SC)	2024	LHDT2	Aggregate	Aggregate	Gasoline	2883.702401	102543.2335	8.523099836	8523.099836	19386.27641	102543.2335	290170.8153	14.97	LHDT2
San Bernardino (SC)	2024	LHDT2	Aggregate	Aggregate	Diesel	4825.532255	186665.6444	10.86317658	10863.17658		186665.6444			
San Bernardino (SC)	2024	LHDT2	Aggregate	Aggregate	Electricity	13.65084178	961.9374735	0	0		961.9374735			
San Bernardino (SC)	2024	MCY	Aggregate	Aggregate	Gasoline	20751.92893	123685.0541	2.946367925	2946.367925	2946.367925	123685.0541	123685.0541	41.98	MCY
San Bernardino (SC)	2024	MDV	Aggregate	Aggregate	Gasoline	147141.1277	5830683.861	296.7902416	296790.2416	300889.4492	5830683.861	6007732.23	19.97	MDV
San Bernardino (SC)	2024	MDV	Aggregate	Aggregate	Diesel	1910.88318	77417.93798	3.254905083	3254.905083		77417.93798			
San Bernardino (SC)	2024	MDV	Aggregate	Aggregate	Electricity	1327.48959	47850.30724	0	0		47850.30724			
San Bernardino (SC)	2024	MDV	Aggregate	Aggregate	Plug-in Hybrid	1028.690257	51780.12453	0.844302537	844.3025368		51780.12453			
San Bernardino (SC)	2024	MH	Aggregate	Aggregate	Gasoline	3401.970527	30215.87901	6.184856876	6184.856876	7364.77817	30215.87901	42284.2868	5.74	MH
San Bernardino (SC)	2024	MH	Aggregate	Aggregate	Diesel	1336.39751	12068.40778	1.179921294	1179.921294		12068.40778			
San Bernardino (SC)	2024	MHDT	Aggregate	Aggregate	Gasoline	1460.602089	78395.7093	15.05623591	15056.23591	88813.34178	78395.7093	740808.1193	8.34	MHDT
San Bernardino (SC)	2024	MHDT	Aggregate	Aggregate	Diesel	14946.4736	650565.6856	72.65830331	72658.30331		650565.6856			
San Bernardino (SC)	2024	MHDT	Aggregate	Aggregate	Electricity	46.13645649	2344.169726	0	0		2344.169726			
San Bernardino (SC)	2024	MHDT	Aggregate	Aggregate	Natural Gas	195.6757264	9502.554663	1.098802564	1098.802564		9502.554663			
San Bernardino (SC)	2024	OBUS	Aggregate	Aggregate	Gasoline	370.0192137	15806.92249	3.09514692	3095.14692	5378.066575	15806.92249	33062.62008	6.15	OBUS
San Bernardino (SC)	2024	OBUS	Aggregate	Aggregate	Diesel	210.5519789	15196.96791	2.055015596	2055.015596		15196.96791			
San Bernardino (SC)	2024	OBUS	Aggregate	Aggregate	Electricity	0.809761934	65.22582716	0	0		65.22582716			
San Bernardino (SC)	2024	OBUS	Aggregate	Aggregate	Natural Gas	32.78528924	1993.503854	0.227904058	227.9040581		1993.503854			
San Bernardino (SC)	2024	SBUS	Aggregate	Aggregate	Gasoline	297.8692006	14022.10243	1.564009513	1564.009513	4951.794465	14022.10243	31836.21175	6.43	SBUS
San Bernardino (SC)	2024	SBUS	Aggregate	Aggregate	Diesel	373.2941498	7747.295585	1.052431626	1052.431626		7747.295585			
San Bernardino (SC)	2024	SBUS	Aggregate	Aggregate	Electricity	2.213199982	56.32019914	0	0		56.32019914			
San Bernardino (SC)	2024	SBUS	Aggregate	Aggregate	Natural Gas	398.7600331	10010.49353	2.335353326	2335.353326		10010.49353			
San Bernardino (SC)	2024	UBUS	Aggregate	Aggregate	Gasoline	54.72012078	5253.853518	0.406450205	406.450205	8263.421636	5253.853518	40123.45681	4.86	UBUS
San Bernardino (SC)	2024	UBUS	Aggregate	Aggregate	Diesel	4.556959009	449.8374364	0.043468777	43.46877693		449.8374364			
San Bernardino (SC)	2024	UBUS	Aggregate	Aggregate	Electricity	7.328344802	1111.359033	0	0		1111.359033			
San Bernardino (SC)	2024	UBUS	Aggregate	Aggregate	Natural Gas	243.3602145	33308.40682	7.813502654	7813.502654		33308.40682			

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Region Type: Sub-Area
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Calendar Year: 2025
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Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (SC)	2025	HHDT	Aggregate	Aggregate	Gasoline	3.869766832	177.2217014	0.044579975	44.57997511	322298.7048	177.2217014	1975659.248	6.13	HHDT
San Bernardino (SC)	2025	HHDT	Aggregate	Aggregate	Diesel	14693.60242	1799109.244	296.221758	296221.758		1799109.244			
San Bernardino (SC)	2025	HHDT	Aggregate	Aggregate	Electricity	109.5985203	11409.19414	0	0		11409.19414			
San Bernardino (SC)	2025	HHDT	Aggregate	Aggregate	Natural Gas	2560.5176	164963.5875	26.0323668	26032.3668		164963.5875			
San Bernardino (SC)	2025	LDA	Aggregate	Aggregate	Gasoline	457374.7047	20012363.19	659.2303928	659230.3928	671181.1368	20012363.19	21858504.21	32.57	LDA
San Bernardino (SC)	2025	LDA	Aggregate	Aggregate	Diesel	986.5858319	34821.96021	0.803361461	803.3614609		34821.96021			
San Bernardino (SC)	2025	LDA	Aggregate	Aggregate	Electricity	22921.29943	1119595.112	0	0		1119595.112			
San Bernardino (SC)	2025	LDA	Aggregate	Aggregate	Plug-in Hybrid	13621.71468	691723.9558	11.14738256	11147.38256		691723.9558			
San Bernardino (SC)	2025	LDT1	Aggregate	Aggregate	Gasoline	39862.49619	1386010.237	55.44488475	55444.88475	55506.30461	1386010.237	1393998.156	25.11	LDT1
San Bernardino (SC)	2025	LDT1	Aggregate	Aggregate	Diesel	9.62153332	138.8700264	0.005712258	5.712257886		138.8700264			
San Bernardino (SC)	2025	LDT1	Aggregate	Aggregate	Electricity	81.74409231	4029.090974	0	0		4029.090974			
San Bernardino (SC)	2025	LDT1	Aggregate	Aggregate	Plug-in Hybrid	75.22656194	3819.958249	0.055707597	55.70759743		3819.958249			
San Bernardino (SC)	2025	LDT2	Aggregate	Aggregate	Gasoline	197589.8024	8156000.659	328.0141754	328014.1754	330196.8511	8156000.659	8333682.032	25.24	LDT2
San Bernardino (SC)	2025	LDT2	Aggregate	Aggregate	Diesel	559.2848358	24877.85405	0.732985994	732.9859937		24877.85405			
San Bernardino (SC)	2025	LDT2	Aggregate	Aggregate	Electricity	1637.444663	58171.59292	0	0		58171.59292			
San Bernardino (SC)	2025	LDT2	Aggregate	Aggregate	Plug-in Hybrid	1934.989022	94631.92591	1.449689627	1449.689627		94631.92591			
San Bernardino (SC)	2025	LHDT1	Aggregate	Aggregate	Gasoline	16963.11371	633447.7463	45.45107153	45451.07153	66469.9942	633447.7463	1077884.454	16.22	LHDT1
San Bernardino (SC)	2025	LHDT1	Aggregate	Aggregate	Diesel	11403.02981	434286.2222	21.01892267	21018.92267		434286.2222			
San Bernardino (SC)	2025	LHDT1	Aggregate	Aggregate	Electricity	147.3648902	10150.48537	0	0		10150.48537			
San Bernardino (SC)	2025	LHDT2	Aggregate	Aggregate	Gasoline	2823.949841	99825.11713	8.149183621	8149.183621	18984.07565	99825.11713	289811.7154	15.27	LHDT2
San Bernardino (SC)	2025	LHDT2	Aggregate	Aggregate	Diesel	4888.887446	187525.0486	10.83489203	10834.89203		187525.0486			
San Bernardino (SC)	2025	LHDT2	Aggregate	Aggregate	Electricity	37.58571717	2461.549606	0	0		2461.549606			
San Bernardino (SC)	2025	MCY	Aggregate	Aggregate	Gasoline	20826.96994	123280.6812	2.925130919	2925.130919	2925.130919	123280.6812	123280.6812	42.15	MCY
San Bernardino (SC)	2025	MDV	Aggregate	Aggregate	Gasoline	147056.3511	5833561.643	289.7409456	289740.9456	293881.6654	5833561.643	6036663.747	20.54	MDV
San Bernardino (SC)	2025	MDV	Aggregate	Aggregate	Diesel	1906.902909	76374.47974	3.151065928	3151.065928		76374.47974			
San Bernardino (SC)	2025	MDV	Aggregate	Aggregate	Electricity	1802.834782	63969.43971	0	0		63969.43971			
San Bernardino (SC)	2025	MDV	Aggregate	Aggregate	Plug-in Hybrid	1256.812117	62758.18504	0.98965379	989.6537902		62758.18504			
San Bernardino (SC)	2025	MH	Aggregate	Aggregate	Gasoline	3227.585522	28520.15334	5.836852659	5836.852659	6997.412696	28520.15334	40386.16204	5.77	MH
San Bernardino (SC)	2025	MH	Aggregate	Aggregate	Diesel	1329.243498	11866.0087	1.160560036	1160.560036		11866.0087			
San Bernardino (SC)	2025	MHDT	Aggregate	Aggregate	Gasoline	1427.423114	76828.767	14.58515666	14585.15666	88952.25214	76828.767	752323.1368	8.46	MHDT
San Bernardino (SC)	2025	MHDT	Aggregate	Aggregate	Diesel	15347.54129	658670.5437	73.22420436	73224.20436		658670.5437			
San Bernardino (SC)	2025	MHDT	Aggregate	Aggregate	Electricity	133.1585562	6928.399641	0	0		6928.399641			
San Bernardino (SC)	2025	MHDT	Aggregate	Aggregate	Natural Gas	208.419151	9895.426472	1.142891124	1142.891124		9895.426472			
San Bernardino (SC)	2025	OBUS	Aggregate	Aggregate	Gasoline	358.2884481	15030.55432	2.914537526	2914.537526	5188.582188	15030.55432	32494.86271	6.26	OBUS
San Bernardino (SC)	2025	OBUS	Aggregate	Aggregate	Diesel	215.4704252	15216.87274	2.039111404	2039.111404		15216.87274			
San Bernardino (SC)	2025	OBUS	Aggregate	Aggregate	Electricity	1.990200949	157.0570869	0	0		157.0570869			
San Bernardino (SC)	2025	OBUS	Aggregate	Aggregate	Natural Gas	34.88313202	2090.378559	0.234933258	234.9332579		2090.378559			
San Bernardino (SC)	2025	SBUS	Aggregate	Aggregate	Gasoline	300.4577721	14124.28621	1.57111818	1571.11818	4959.876607	14124.28621	31963.06277	6.44	SBUS
San Bernardino (SC)	2025	SBUS	Aggregate	Aggregate	Diesel	363.8707141	7488.892183	1.014599014	1014.599014		7488.892183			
San Bernardino (SC)	2025	SBUS	Aggregate	Aggregate	Electricity	4.690534617	132.2929048	0	0		132.2929048			
San Bernardino (SC)	2025	SBUS	Aggregate	Aggregate	Natural Gas	411.4766102	10217.59148	2.374159413	2374.159413		10217.59148			
San Bernardino (SC)	2025	UBUS	Aggregate	Aggregate	Gasoline	54.83056931	5264.458034	0.406547565	406.5475652	8275.384496	5264.458034	40204.44305	4.86	UBUS
San Bernardino (SC)	2025	UBUS	Aggregate	Aggregate	Diesel	4.529432466	447.4667714	0.043317656	43.31765633		447.4667714			
San Bernardino (SC)	2025	UBUS	Aggregate	Aggregate	Electricity	7.409987909	1124.502697	0	0		1124.502697			
San Bernardino (SC)	2025	UBUS	Aggregate	Aggregate	Natural Gas	243.8212922	33368.01555	7.825519274	7825.519274		33368.01555			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (SC)	2026	HHDT	Aggregate	Aggregate	Gasoline	2.628638455	162.3041519	0.038094178	38.09417834	323816.6756	162.3041519	2020691.204	6.24	HHDT
San Bernardino (SC)	2026	HHDT	Aggregate	Aggregate	Diesel	15084.77036	1831295.475	297.3157582	297315.7582		1831295.475			
San Bernardino (SC)	2026	HHDT	Aggregate	Aggregate	Electricity	191.0683418	19973.63311	0	0		19973.63311			
San Bernardino (SC)	2026	HHDT	Aggregate	Aggregate	Natural Gas	2643.959607	169259.7919	26.4628232	26462.8232		169259.7919			
San Bernardino (SC)	2026	LDA	Aggregate	Aggregate	Gasoline	456254.7841	19874166.46	641.5351772	641535.1772	653766.4651	19874166.46	21884485.35	33.47	LDA
San Bernardino (SC)	2026	LDA	Aggregate	Aggregate	Diesel	917.7888375	31994.04388	0.730185103	730.185103		31994.04388			
San Bernardino (SC)	2026	LDA	Aggregate	Aggregate	Electricity	26082.82543	1250859.603	0	0		1250859.603			
San Bernardino (SC)	2026	LDA	Aggregate	Aggregate	Plug-in Hybrid	14570.87312	727465.2451	11.50110282	11501.10282		727465.2451			
San Bernardino (SC)	2026	LDT1	Aggregate	Aggregate	Gasoline	39063.9999	1360017.769	53.36846197	53368.46197	53444.7712	1360017.769	1370565.663	25.64	LDT1
San Bernardino (SC)	2026	LDT1	Aggregate	Aggregate	Diesel	7.517030094	107.4585455	0.004383307	4.383306977		107.4585455			
San Bernardino (SC)	2026	LDT1	Aggregate	Aggregate	Electricity	110.0966514	5426.246616	0	0		5426.246616			
San Bernardino (SC)	2026	LDT1	Aggregate	Aggregate	Plug-in Hybrid	100.2350808	5014.189058	0.071925931	71.92593104		5014.189058			
San Bernardino (SC)	2026	LDT2	Aggregate	Aggregate	Gasoline	202612.9731	8343534.623	327.3242951	327324.2951	329715.7191	8343534.623	8550437.791	25.93	LDT2
San Bernardino (SC)	2026	LDT2	Aggregate	Aggregate	Diesel	596.9953934	26308.25909	0.759292797	759.2927973		26308.25909			
San Bernardino (SC)	2026	LDT2	Aggregate	Aggregate	Electricity	2064.91584	72169.29693	0	0		72169.29693			
San Bernardino (SC)	2026	LDT2	Aggregate	Aggregate	Plug-in Hybrid	2256.649793	108425.6117	1.63213121	1632.13121		108425.6117			
San Bernardino (SC)	2026	LHDT1	Aggregate	Aggregate	Gasoline	16791.83447	629601.5161	44.16498346	44164.98346	64979.5748	629601.5161	1079997.968	16.62	LHDT1
San Bernardino (SC)	2026	LHDT1	Aggregate	Aggregate	Diesel	11393.65177	431830.7159	20.81459135	20814.59135		431830.7159			
San Bernardino (SC)	2026	LHDT1	Aggregate	Aggregate	Electricity	282.094588	18565.73546	0	0		18565.73546			
San Bernardino (SC)	2026	LHDT2	Aggregate	Aggregate	Gasoline	2763.224246	97215.03215	7.803597069	7803.597069	18588.78398	97215.03215	289578.9062	15.58	LHDT2
San Bernardino (SC)	2026	LHDT2	Aggregate	Aggregate	Diesel	4937.57725	187863.321	10.78518691	10785.18691		187863.321			
San Bernardino (SC)	2026	LHDT2	Aggregate	Aggregate	Electricity	71.81390811	4500.553077	0	0		4500.553077			
San Bernardino (SC)	2026	MCY	Aggregate	Aggregate	Gasoline	20884.25022	122975.6545	2.907527557	2907.527557	2907.527557	122975.6545	122975.6545	42.30	MCY
San Bernardino (SC)	2026	MDV	Aggregate	Aggregate	Gasoline	147189.0217	5833278.241	282.9367666	282936.7666	287097.9101	5833278.241	6059751.016	21.11	MDV
San Bernardino (SC)	2026	MDV	Aggregate	Aggregate	Diesel	1900.727125	75215.18536	3.046386471	3046.386471		75215.18536			
San Bernardino (SC)	2026	MDV	Aggregate	Aggregate	Electricity	2262.574859	78934.40652	0	0		78934.40652			
San Bernardino (SC)	2026	MDV	Aggregate	Aggregate	Plug-in Hybrid	1469.974449	72323.18263	1.114757016	1114.757016		72323.18263			
San Bernardino (SC)	2026	MH	Aggregate	Aggregate	Gasoline	3064.468567	27038.8087	5.530646832	5530.646832	6673.58648	27038.8087	38715.77147	5.80	MH
San Bernardino (SC)	2026	MH	Aggregate	Aggregate	Diesel	1320.026239	11676.96277	1.142939648	1142.939648		11676.96277			
San Bernardino (SC)	2026	MHDT	Aggregate	Aggregate	Gasoline	1396.239062	75343.20605	14.13811827	14138.11827	88998.08289	75343.20605	764236.6027	8.59	MHDT
San Bernardino (SC)	2026	MHDT	Aggregate	Aggregate	Diesel	15710.20603	665955.6798	73.67630673	73676.30673		665955.6798			
San Bernardino (SC)	2026	MHDT	Aggregate	Aggregate	Electricity	245.8765864	12699.29672	0	0		12699.29672			
San Bernardino (SC)	2026	MHDT	Aggregate	Aggregate	Natural Gas	220.2089686	10238.42022	1.183657888	1183.657888		10238.42022			
San Bernardino (SC)	2026	OBUS	Aggregate	Aggregate	Gasoline	348.5150855	14345.28666	2.754710661	2754.710661	5020.348152	14345.28666	32033.51538	6.38	OBUS
San Bernardino (SC)	2026	OBUS	Aggregate	Aggregate	Diesel	220.037016	15248.80528	2.024298125	2024.298125		15248.80528			
San Bernardino (SC)	2026	OBUS	Aggregate	Aggregate	Electricity	3.340971814	259.0449895	0	0		259.0449895			
San Bernardino (SC)	2026	OBUS	Aggregate	Aggregate	Natural Gas	36.78806859	2180.378447	0.241339366	241.3393658		2180.378447			
San Bernardino (SC)	2026	SBUS	Aggregate	Aggregate	Gasoline	302.8964194	14222.26132	1.577820897	1577.820897	4964.605895	14222.26132	32090.47199	6.46	SBUS
San Bernardino (SC)	2026	SBUS	Aggregate	Aggregate	Diesel	353.6259778	7228.312611	0.976501833	976.5018327		7228.312611			
San Bernardino (SC)	2026	SBUS	Aggregate	Aggregate	Electricity	8.074559241	228.2385136	0	0		228.2385136			
San Bernardino (SC)	2026	SBUS	Aggregate	Aggregate	Natural Gas	423.8773853	10411.65954	2.410283165	2410.283165		10411.65954			
San Bernardino (SC)	2026	UBUS	Aggregate	Aggregate	Gasoline	54.94101785	5275.062551	0.407858087	407.8580873	7993.083023	5275.062551	40285.42929	5.04	UBUS
San Bernardino (SC)	2026	UBUS	Aggregate	Aggregate	Diesel	4.529432466	447.4667714	0.043317653	43.31765334		447.4667714			
San Bernardino (SC)	2026	UBUS	Aggregate	Aggregate	Electricity	11.78176765	1911.719241	0	0		1911.719241			
San Bernardino (SC)	2026	UBUS	Aggregate	Aggregate	Natural Gas	239.9647068	32651.18073	7.541907283	7541.907283		32651.18073			

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Bernardino (SC)
Calendar Year: 2027
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Vehicle Classification: EMFAC2007 Categories
Units: miles/year for CVMT and EVMT, trips/year for Trips, kWh/year for Energy Consumption, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Region	CalYr	VehClass	MdlYr	Speed	Fuel	Population	VMT	Fuel_Consumption	Fuel_Consumption	Total Fuel	VMT	Total VMT	Miles per Gallon	Vehicle Class
San Bernardino (SC)	2027	HHDT	Aggregate	Aggregate	Gasoline	2.031197481	158.444704	0.03545197	35.45197047	324538.1908	158.444704	2066703.214	6.37	HHDT
San Bernardino (SC)	2027	HHDT	Aggregate	Aggregate	Diesel	15410.14317	1861290.669	297.8003661	297800.3661		1861290.669			
San Bernardino (SC)	2027	HHDT	Aggregate	Aggregate	Electricity	309.5303952	32362.74223	0	0		32362.74223			
San Bernardino (SC)	2027	HHDT	Aggregate	Aggregate	Natural Gas	2715.575882	172891.3587	26.70237267	26702.37267		172891.3587			
San Bernardino (SC)	2027	LDA	Aggregate	Aggregate	Gasoline	455364.3713	19787637.94	626.1101219	626110.1219	638604.9325	19787637.94	21952221.48	34.38	LDA
San Bernardino (SC)	2027	LDA	Aggregate	Aggregate	Diesel	838.6675897	29298.26032	0.659294609	659.2946086		29298.26032			
San Bernardino (SC)	2027	LDA	Aggregate	Aggregate	Electricity	29132.45727	1375391.516	0	0		1375391.516			
San Bernardino (SC)	2027	LDA	Aggregate	Aggregate	Plug-in Hybrid	15443.22828	759893.7676	11.83551602	11835.51602		759893.7676			
San Bernardino (SC)	2027	LDT1	Aggregate	Aggregate	Gasoline	38336.73013	1338397.254	51.51343959	51513.43959	51606.62039	1338397.254	1351923.889	26.20	LDT1
San Bernardino (SC)	2027	LDT1	Aggregate	Aggregate	Diesel	4.439852634	65.17772521	0.002574711	2.57471119		65.17772521			
San Bernardino (SC)	2027	LDT1	Aggregate	Aggregate	Electricity	144.0545689	7086.678198	0	0		7086.678198			
San Bernardino (SC)	2027	LDT1	Aggregate	Aggregate	Plug-in Hybrid	128.8782043	6374.778863	0.090606087	90.60608738		6374.778863			
San Bernardino (SC)	2027	LDT2	Aggregate	Aggregate	Gasoline	207676.4312	8538774.779	327.3681394	327368.1394	329973.7622	8538774.779	8775845.407	26.60	LDT2
San Bernardino (SC)	2027	LDT2	Aggregate	Aggregate	Diesel	630.9551959	27664.28405	0.782780323	782.7803228		27664.28405			
San Bernardino (SC)	2027	LDT2	Aggregate	Aggregate	Electricity	2524.548375	86861.55106	0	0		86861.55106			
San Bernardino (SC)	2027	LDT2	Aggregate	Aggregate	Plug-in Hybrid	2587.065461	122544.7931	1.822842412	1822.842412		122544.7931			
San Bernardino (SC)	2027	LHDT1	Aggregate	Aggregate	Gasoline	16631.76323	624309.3634	42.99085614	42990.85614	63571.75886	624309.3634	1082917.934	17.03	LHDT1
San Bernardino (SC)	2027	LHDT1	Aggregate	Aggregate	Diesel	11353.59669	427724.523	20.58090272	20580.90272		427724.523			
San Bernardino (SC)	2027	LHDT1	Aggregate	Aggregate	Electricity	483.3007095	30884.04755	0	0		30884.04755			
San Bernardino (SC)	2027	LHDT2	Aggregate	Aggregate	Gasoline	2701.097559	94507.35792	7.480744076	7480.744076	18200.52082	94507.35792	289429.504	15.90	LHDT2
San Bernardino (SC)	2027	LHDT2	Aggregate	Aggregate	Diesel	4973.210606	187433.7598	10.71977674	10719.77674		187433.7598			
San Bernardino (SC)	2027	LHDT2	Aggregate	Aggregate	Electricity	122.9369508	7488.386288	0	0		7488.386288			
San Bernardino (SC)	2027	MCY	Aggregate	Aggregate	Gasoline	20938.59567	122694.478	2.890537534	2890.537534	2890.537534	122694.478	122694.478	42.45	MCY
San Bernardino (SC)	2027	MDV	Aggregate	Aggregate	Gasoline	147488.8393	5847136.794	277.1736638	277173.6638	281362.1261	5847136.794	6096922.964	21.67	MDV
San Bernardino (SC)	2027	MDV	Aggregate	Aggregate	Diesel	1888.455182	74178.21175	2.946435768	2946.435768		74178.21175			
San Bernardino (SC)	2027	MDV	Aggregate	Aggregate	Electricity	2733.489517	93772.05753	0	0		93772.05753			
San Bernardino (SC)	2027	MDV	Aggregate	Aggregate	Plug-in Hybrid	1684.990864	81835.90048	1.242026531	1242.026531		81835.90048			
San Bernardino (SC)	2027	MH	Aggregate	Aggregate	Gasoline	2916.368599	25737.28381	5.27019968	5270.19968	6397.211655	25737.28381	37228.95733	5.82	MH
San Bernardino (SC)	2027	MH	Aggregate	Aggregate	Diesel	1309.206187	11491.67351	1.127011975	1127.011975		11491.67351			
San Bernardino (SC)	2027	MHDT	Aggregate	Aggregate	Gasoline	1363.931373	73700.39666	13.69794739	13697.94739	88901.23052	73700.39666	776532.1125	8.73	MHDT
San Bernardino (SC)	2027	MHDT	Aggregate	Aggregate	Diesel	16024.85269	671004.9398	73.98162813	73981.62813		671004.9398			
San Bernardino (SC)	2027	MHDT	Aggregate	Aggregate	Electricity	415.444894	21284.00609	0	0		21284.00609			
San Bernardino (SC)	2027	MHDT	Aggregate	Aggregate	Natural Gas	231.558042	10542.76998	1.221654995	1221.654995		10542.76998			
San Bernardino (SC)	2027	OBUS	Aggregate	Aggregate	Gasoline	338.4979609	13679.12348	2.606454389	2606.454389	4867.066738	13679.12348	31634.98876	6.50	OBUS
San Bernardino (SC)	2027	OBUS	Aggregate	Aggregate	Diesel	224.28968	15302.2929	2.013017951	2013.017951		15302.2929			
San Bernardino (SC)	2027	OBUS	Aggregate	Aggregate	Electricity	5.327608073	407.9589952	0	0		407.9589952			
San Bernardino (SC)	2027	OBUS	Aggregate	Aggregate	Natural Gas	38.43104481	2245.613392	0.247594398	247.5943984		2245.613392			
San Bernardino (SC)	2027	SBUS	Aggregate	Aggregate	Gasoline	305.3091837	14312.56626	1.584072348	1584.072348	4963.461893	14312.56626	32226.7021	6.49	SBUS
San Bernardino (SC)	2027	SBUS	Aggregate	Aggregate	Diesel	342.2196973	6962.145992	0.937618085	937.6180855		6962.145992			
San Bernardino (SC)	2027	SBUS	Aggregate	Aggregate	Electricity	13.01170465	369.133274	0	0		369.133274			
San Bernardino (SC)	2027	SBUS	Aggregate	Aggregate	Natural Gas	435.6655597	10582.85658	2.44177146	2441.77146		10582.85658			
San Bernardino (SC)	2027	UBUS	Aggregate	Aggregate	Gasoline	55.04919487	5285.495548	0.409776943	409.7769433	7271.552247	5285.495548	40366.41553	5.55	UBUS
San Bernardino (SC)	2027	UBUS	Aggregate	Aggregate	Diesel	4.529432466	447.4667714	0.043453785	43.4537853		447.4667714			
San Bernardino (SC)	2027	UBUS	Aggregate	Aggregate	Electricity	29.13079723	4558.880161	0	0		4558.880161			
San Bernardino (SC)	2027	UBUS	Aggregate	Aggregate	Natural Gas	223.133143	30074.57305	6.818321518	6818.321518		30074.57305			

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