Mission San Marcos Industrial Park Project

SDP22-0009

Air Quality, Greenhouse Gas Emissions, and Energy Technical Report

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ACRONYMS AND ABBREVIATIONS

$\mu g/m^3$	micrograms per cubic meter
AAQS	Ambient Air Quality Standard
AB	Assembly Bill
ADMRT	Air Dispersion Modeling and Risk Tool
ADT	average daily trips
AERMAP	USEPA terrain preprocessing program
AERMOD	USEPA terrain preprocessing program
APN	Assessor's Parcel Number
AR4	United Nations Intergovernmental Panel on Climate Change Fourth Assessment Report
Attainment Plan	Ozone Attainment Plan for San Diego County
BAAQMD	Bay Area Air Quality Management District
CAA	Clean Air Act (Federal)
CAAQS	California Ambient Air Quality Standard
CAFE	Corporate Average Fuel Economy
CalEEMod	California Emission Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	CCR Title 24 Part 11, California Green Building Standards code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CBSC	California Building Standards Commission
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
City	City of San Marcos
CO	carbon monoxide
CO_2	carbon dioxide
CO_2e	carbon dioxide equivalent
County	County of San Diego
CPUC	California Public Utilities Commission
CY	cubic yards
DEM	Digital Elevation Model
DPM	diesel particulate matter
DOE	U.S. Department of Energy

ACRONYMS AND ABBREVIATIONS (cont.)

EISA	Energy Independence and Security Act
EO	Executive Order
EPCA	Energy Policy and Conservation Act
EV	electric vehicle
°F	degrees Fahrenheit
g/L	grams per liter
GHG	greenhouse gases
GWP	Global Warming Potential
H_2S	hydrogen sulfide
HFCs	hydrofluorocarbons
HI	Hazard Index
HRA	health risk assessment
IPCC	United Nations Intergovernmental Panel on Climate Change
ISTEA	Intermodal Surface Transportation Efficiency Act
kW	kilowatts
kWh	kilowatt hours
LCFS	Low Carbon Fuel Standard
LLG	Linscott, Law & Greenspan
MEIR	Maximally Exposed Individual Resident
MEIW	Maximally Exposed Individual Worker
mg/m^3	milligrams per cubic meter
MMT	million metric tons
mph	miles per hour
MPO	Metropolitan Planning Organization
MT	metric ton
NAAQS	National Ambient Air Quality Standard
NASA	National Aeronautics and Space Administration
NHTSA	National Highway Traffic Safety Administration
NO	nitrogen oxide
NO_2	nitrogen dioxide
NOAA	National Oceanic and Atmospheric Administration
NO_X	oxides of nitrogen

ACRONYMS AND ABBREVIATIONS (cont.)

O_3	Ozone
OEHHA	Office of Environmental Health Hazard Assessment
Pb	lead
PBL	PBL Netherlands Environmental Assessment Agency
PDF	Project Design Feature
PM	particulate matter
PM_{10}	particulate matter 10 microns or less in diameter
$PM_{2.5}$	particulate matter 2.5 microns or less in diameter
ppm	parts per million
PRC	Public Resources Code
RAQS	Regional Air Quality Strategy
REL	Reference Exposure Limit
ROG	reactive organic gas
RTP	regional transportation plan
SANDAG	San Diego Association of Governments
SB	Senate Bill
SCAQMD	South Coast Air Quality Management District
SCS	Sustainable Communities Strategy
SDAB	San Diego Air Basin
SDAPCD	San Diego County Air Pollution Control District
SIP	State Implementation Plan
SLCP	short-lived climate pollutant
SO_2	sulfur dioxide
SO_X	oxides of sulfur
TAC	Toxic Air Contaminant
TDM	Transportation Demand Management
TEA-21	Transportation Equity Act for the 21st Century
USDOT	U.S. Department of Transportation
USEPA	U.S. Environmental Protection Agency
UTM	Universal Transverse Mercator
VMT	vehicle miles traveled
VOC	volatile organic compound

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EXECUTIVE SUMMARY

This report presents an assessment of potential air quality and greenhouse gas (GHG) emissions impacts resulting from the construction and operation of the proposed Mission San Marcos Industrial Park Project (project). The project site is located at 528 East Mission Road in the eastern portion of the City of San Marcos (City) on the northern side of East Mission Road between Falcon Place and Mulberry Drive in San Diego County, California. The project would demolish the existing light industrial buildings on the project site and develop the site with three light industrial/warehouse buildings. The project would provide approximately 141 on-site parking places and 14 truck-loading bays.

The current General Plan land use designation for the project site is Neighborhood Commercial on the southeastern corner and Light Industrial across the remainder of the site. The project site is zoned within the transitional zone for Light Industrial to Light Industrial and Neighborhood Commercial on most of the site and the transitional zone for Light Industrial to Neighborhood Commercial within the southeastern corner. As such, the project's growth would be accounted for in the applicable air quality plans—San Diego County Air Pollution Control District's (SDAPCD's) 2020 *Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County* (Attainment Plan) and the 2023 Regional Air Quality Strategy (RAQS). Therefore, the project would not conflict with or obstruct the implementation of the applicable air quality plan, and the impact would be less than significant.

The project would result in emissions of criteria air pollutants during construction and operation. Project emissions of criteria pollutants during construction or operation would not exceed the screening level project construction or operational thresholds developed from the SDAPCD Air Quality Impact Analysis (AQIA) trigger levels. Therefore, the project's construction and operational emissions would not contribute to the San Diego Air Basin's (SDAB's) nonattainment status of ozone, PM_{10}, and $PM_{2.5}$. Construction and operation of the project would not violate an air quality standard or contribute to an existing or projected air quality violation and the impact would be less than significant.

Construction of the project would not result in exposure of off-site sensitive receptors to significant quantities of toxic air contaminants (TACs). Impacts related to exposure of off-site sensitive receptors to substantial pollutant concentrations, including construction period diesel particulate matter (DPM) and operational carbon monoxide (CO) hotspots, would be less than significant. A health risk assessment (HRA) was conducted to assess impacts to sensitive receptors from exposure to DPM from operation of the project. Community health risks from exposure to TACs from operation of the project would not exceed the County's thresholds and would be less than significant.

Implementation of the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and impacts related to odors would be less than significant.

The project would be consistent with the City's Climate Actions Plan (CAP), determined using the City's CAP Consistency Review Checklist. The City's CAP is a qualified GHG reduction plan consistent with CEQA guidelines Section 15183.5. Projects which would be consistent with a qualified GHG reduction plan would have less than cumulatively considerable GHG emissions. The City's CAP was developed to ensure community wide GHG emissions in San Marcos would meet the state's 2020 and 2030 GHG reduction goals and demonstrate progress towards achieving the state's post 2030 GHG reduction goals, including the 2045 net zero GHG emissions goal. GHG impacts would be less than significant.

The project would be required to comply with state regulations for construction waste recycling and construction equipment idling. Project construction would involve techniques and equipment typical for construction of industrial buildings in the region. With consideration of the increased employment density on the project site, the project would result in a decrease in worker vehicle miles traveled (VMT) compared to the regional average and the project would utilize less transportation energy compared to the regional average. Project buildings would be required to be constructed and operated in accordance with the State Title 24 Building Energy Efficiency Standards and Green Building Standards. In addition, the project would implement design features in accordance with City CAP measures including installing electric vehicle (EV) charging stations, installing photovoltaic (PV) panels for on-site renewable electricity generation, and planting trees for parking lot shade and urban forest contribution. The project would also comply with City Code requirements for water efficient landscaping. The project would not result in wasteful, inefficient, or unnecessary consumption of energy resources or conflict with or obstruct a state or local plan for renewable energy or energy efficiency. Energy impacts would be less than significant.

1.0 INTRODUCTION

This report presents an assessment of potential air quality, greenhouse gas (GHG) emissions, and energy impacts during the construction and operation of the proposed Mission San Marcos Industrial Park Project (project). This report has been prepared to support environmental review in accordance with the California Environmental Quality Act (CEQA; California Public Resources Code [PRC] §21000 et seq.); State CEQA Guidelines (California Code of Regulations [CCR], Title 14, §15000 et seq.). In addition, this report contains a health risk assessment (HRA) of potential health risks resulting from long-term exposure to toxic air contaminants (TACs) generated by project operations.

1.1 PROJECT LOCATION

The approximately 10.8-acre site (Assessor's Parcel Number 220-210-26-00) located at 528 East Mission Road in the eastern portion of the City of San Marcos (City) on the northern side of East Mission Road between Falcon Place and Mulberry Drive in San Diego County (County), California (see Figure 1, *Regional Location*, and Figure 2, *Aerial Photograph*).

1.2 PROJECT DESCRIPTION

The project would demolish the two existing structures (and their associated improvements) on the project site and develop three light industrial/warehouse buildings with associated hardscape and landscape improvements. An approximately 2.95-acre hillside open space in the northwest portion of the project site would remain undeveloped. The three proposed light industrial/warehouse buildings would total approximately 132,810 square feet and would include a total of 14 loading docks. The proposed buildings would have a maximum height of 38 feet and each building would contain a two-story ancillary office space. Total project light industrial/warehouse space would be approximately 118,810 square feet and total project ancillary office would be approximately 14,000 square feet. Future tenants of the project were unknown at the time of this analysis and could include a variety of light industrial and warehousing uses. However, the project does not propose any refrigerated warehousing (see Figure 3, *Site Plan*).

Vehicular access to the project site would be provided via two driveways on East Mission Road. The project would renovate the sidewalk along East Mission Road to maintain an accessible pedestrian path along this frontage. The existing bus stop at the southeastern corner of the project site would be relocated to the southwestern corner of the project site. The project would provide approximately 141 parking spaces.

A public drainage easement to the City would be established along the eastern boundary of the project site and a 12-foot by 4-foot concrete box storm drain would be installed beneath the proposed drive aisle. The storm drain would connect three existing storm drains at the northeast corner of the project site to existing culverts under East Mission Road and would remove off-site flows to the project site. Off-site improvements at the existing storm drain would consist of construction of a transition inlet structure connecting to the existing energy dissipater to convey flows via 24-inch pipes from the inlet structure to the proposed box storm drain along the eastern project boundary. The existing storm drain pipes and energy dissipater would remain in place.

The current General Plan land use designation for the project site is Neighborhood Commercial on the southeastern corner and Light Industrial across the remainder of the site. The project site is zoned

within the transitional zone for Light Industrial to Light Industrial and Neighborhood Commercial on most of the site and the transitional zone for Light Industrial to Neighborhood Commercial within the southeastern corner. No change to the current land use or zoning designations for the project site is proposed.

1.2.1 Project Design Features

The following project design features (PDFs) would be conditions of project approval:

PDF-1: The project will install Level 2 or better EV charging stations in at least five percent of the total parking spaces on-site.

PDF-2: The project will install PV panels on each building rooftop with total capacity of at least two watts per square foot of gross floor area.

PDF-3: The project will plant at least one tree on the site per five parking spaces provided.

1.3 CONSTRUCTION ACTIVITIES AND PHASING

Construction of the project is anticipated to be completed in one phase lasting approximately 13 months. Project construction activities would include demolition, site preparation, grading, building construction, architectural coating (e.g., painting), and paving. Detailed construction activity and equipment assumptions are summarized in Section 4.1, *Methodology*, and provided in Appendix A, *CalEEMod Output*. Staging of construction equipment would occur within the developed portions of the project site, specifically at the southwest corner of the project site and at the western edge of the existing hillside area.

2.0 REGULATORY SETTING

2.1 AIR QUALITY

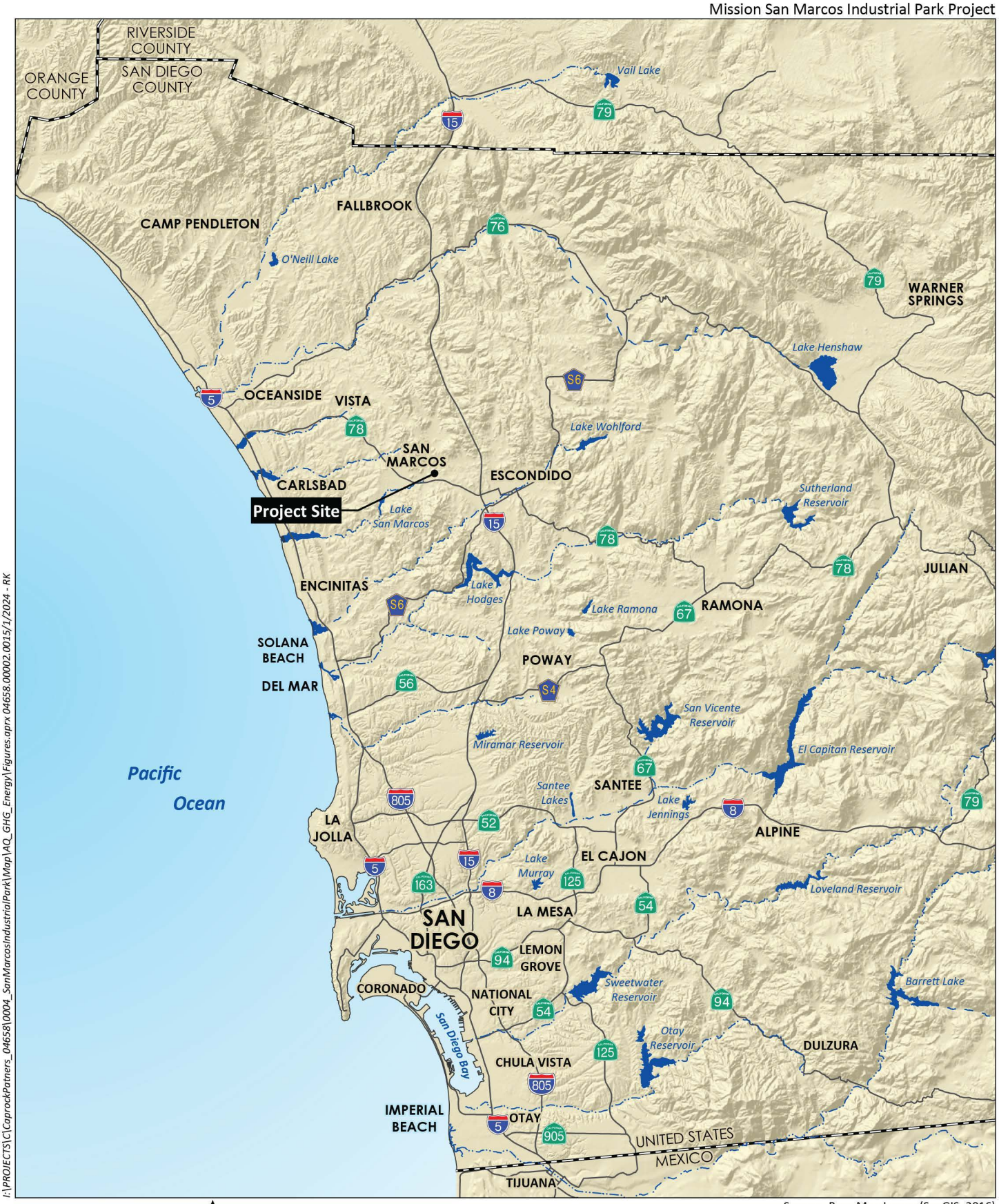
The project site is located within the San Diego Air Basin (SDAB) which comprises the entirety of San Diego County. Air quality in the SDAB is regulated by the U.S. Environmental Protection Agency (USEPA) at the federal level, by the California Air Resources Board (CARB) at the state level, and by the San Diego County Air Pollution Control District (SDAPCD) at the regional level.

2.1.1 Air Pollutants of Concern

2.1.1.1 Criteria Pollutants

Criteria pollutants are defined by state and federal law as a risk to the health and welfare of the public. In general, criteria air pollutants include the following compounds:

- Ozone (O_3)
- Carbon monoxide (CO)
- Nitrogen dioxide (NO_2)



0 8 Miles

Source: Base Map Layers (SanGIS, 2016)

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Regional Location

Figure 1

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0 150 Feet

Source: Aerial (SanGIS 2023)

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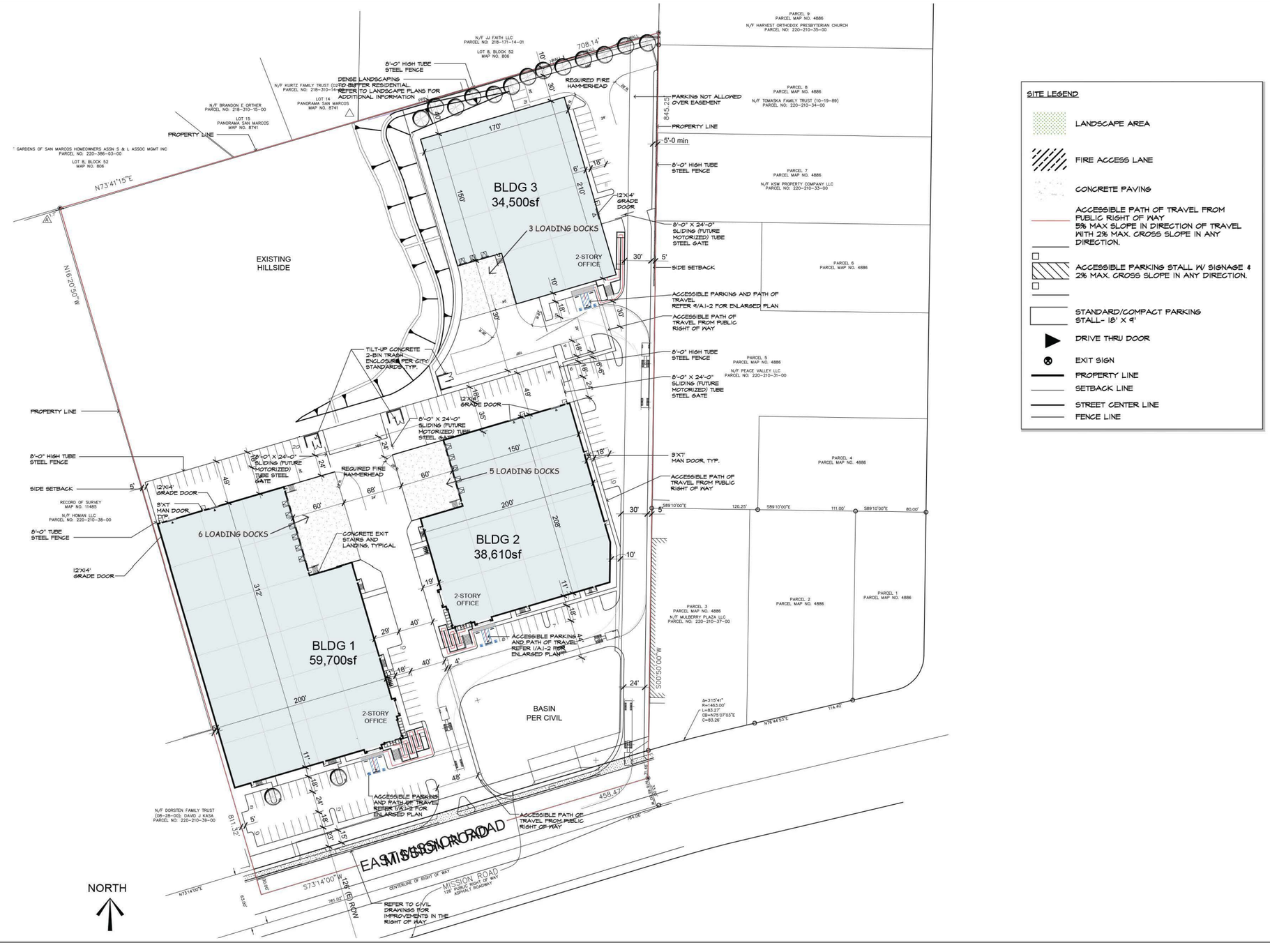
Aerial Photograph

Figure 2



Source: Douglas Franz Architects Inc 2023

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Site Plan

Figure 3

- Particulate matter (PM), which is further subdivided:
  - Coarse PM, 10 microns or less in diameter (PM_{10})
  - Fine PM, 2.5 microns or less in diameter ($PM_{2.5}$)
- Sulfur dioxide (SO_2)
- Lead (Pb)

Criteria pollutants can be emitted directly from sources (primary pollutants; e.g., CO, SO_2, PM_{10}, $PM_{2.5}$, and lead), or they may be formed through chemical and photochemical reactions of precursor pollutants in the atmosphere (secondary pollutants; e.g., ozone, NO_2, PM_{10}, and $PM_{2.5}$). PM_{10} and $PM_{2.5}$ can be both primary and secondary pollutants. The principal precursor pollutants of concern are reactive organic gases ([ROGs] also known as volatile organic compounds [VOCs])[1] and nitrogen oxides (NO_X).

The descriptions of sources and general health effects for each of the criteria air pollutants are shown in Table 1, *Common Sources and Human Health Effects of Criteria Air Pollutants*. Specific adverse health effects on individuals or population groups induced by criteria pollutant emissions are highly dependent on a multitude of interconnected variables such as cumulative concentrations, local meteorology and atmospheric conditions, and the number and characteristics of exposed individuals (e.g., age, gender). Criteria pollutant precursors (ROG and NO_X) affect air quality on a regional scale, typically after significant delay and distance from the pollutant source emissions. Health effects related to ozone and NO_2 are, therefore, the product of emissions generated by numerous sources throughout a region.

Emissions of criteria pollutants from vehicles traveling to or from the project site (mobile emissions) are distributed nonuniformly in location and time throughout the region, wherever the vehicles may travel. As such, specific health effects from these criteria pollutant emissions cannot be meaningfully correlated to the incremental contribution from the project.

Table 1
COMMON SOURCES AND HUMAN HEALTH EFFECTS OF CRITERIA AIR POLLUTANTS

Pollutant	Major Man-Made Sources	Human Health Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include motor vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to climate change and nutrient overloading, which deteriorates water quality. Causes brown discoloration of the atmosphere.

[1] CARB defines and uses the term ROGs while the USEPA defines and uses the term VOCs. The compounds included in the lists of ROGs and VOCs and the methods of calculation are slightly different. However, for the purposes of estimating criteria pollutant precursor emissions, the two terms are often used interchangeably.

Pollutant	Major Man-Made Sources	Human Health Effects
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrogen oxides (NO_X) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles, and dyes.
Particulate Matter (PM_{10} and $PM_{2.5}$)	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and other sources.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned, when gasoline is extracted from oil, or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid, which can damage marble, iron, and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead	Metallic element emitted from metal refineries, smelters, battery manufacturers, iron and steel producers, and use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CARB 2024a; USEPA 2024a

2.1.1.2 Toxic Air Contaminants

The Health and Safety Code (§39655, subd. (a).) defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to subsection (b) of Section 112 of the Federal Clean Air Act (CAA) (42 United States Code Section 7412[b]) is a TAC. Under State law, the California Environmental Protection Agency (CalEPA), acting through CARB, is authorized to identify a substance as a TAC if it determines the substance is an air pollutant that may cause or contribute to an increase in mortality or an increase in serious illness, or that may pose a present or potential hazard to human health.

Diesel engines emit a complex mixture of air pollutants, including both gaseous and solid materials. The solid material in diesel exhaust is referred to as diesel particulate matter (DPM). Almost all DPM is 10 microns or less in diameter, and 90 percent of DPM is less than 2.5 microns in diameter (CARB 2024b). Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lung. In 1998, CARB identified DPM as a TAC based on published evidence of a relationship between diesel exhaust exposure and lung cancer and other adverse health effects. DPM has a notable effect on California’s population—it is estimated that about 70 percent of total known cancer risk related to air toxins in California is attributable to DPM (CARB 2024b).

2.1.2 Federal Air Quality Regulations

2.1.2.1 Federal Clean Air Act

Air quality is defined by ambient air concentrations of specific pollutants identified by the USEPA to be of concern with respect to the health and welfare of the public. The USEPA is responsible for enforcing the CAA of 1970 and its 1977 and 1990 Amendments. The CAA required the USEPA to establish National Ambient Air Quality Standards (NAAQS), which identify concentrations of pollutants in the ambient air below which no adverse effects on public health and welfare are anticipated. In response, the USEPA established both primary and secondary standards for several criteria pollutants. On February 7, 2024, the USEPA announced a final rule to lower the annual arithmetic mean (AAM) primary NAAQS for $PM_{2.5}$ from 12 µg/m^3 to 9 µg/m^3. The new final rule retains the existing 24-hour primary NAAQS for $PM_{2.5}$ of 35 µg/m^3 and the existing AAM secondary NAAQS for $PM_{2.5}$ of 15.0 µg/m^3 (USEPA 2024b). Table 2, *Ambient Air Quality Standards*, shows the federal and state ambient air quality standards for criteria pollutants.

Table 2
AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1,2]	Federal Standards Secondary[3]
O_3	1 Hour	0.09 ppm (180 µg/m^3)	–	–
	8 Hour	0.070 ppm (137 µg/m^3)	0.070 ppm (137 µg/m^3)	Same as Primary
PM_{10}	24 Hour	50 µg/m^3	150 µg/m^3	Same as Primary
	AAM	20 µg/m^3	–	Same as Primary
$PM_{2.5}$	24 Hour	–	35 µg/m^3	Same as Primary
	AAM	12 µg/m^3	9 µg/m^3	15.0 µg/m^3
CO	1 Hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	–
	8 Hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	–
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
NO_2	1 Hour	0.18 ppm (339 µg/m^3)	0.100 ppm (188 µg/m^3)	–
	AAM	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as Primary
SO_2	1 Hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	–
	3 Hour	–	–	0.5 ppm (1,300 µg/m^3)
	24 Hour	0.04 ppm (105 µg/m^3)	–	–
Lead	30-day Avg.	1.5 µg/m^3	–	–
	Calendar Quarter	–	1.5 µg/m^3	Same as Primary
	Rolling 3-month Avg.	–	0.15 µg/m^3	Same as Primary
Visibility Reducing Particles	8 Hour	Extinction coefficient of 0.23 per km – visibility ≥ 10 miles (0.07 per km – ≥30 miles for Lake Tahoe)	No Federal Standards	No Federal Standards

Pollutant	Averaging Time	California Standards	Federal Standards Primary[1,2]	Federal Standards Secondary[3]
Sulfates	24 Hour	25 µg/m^3	No Federal Standards	No Federal Standards
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	No Federal Standards	No Federal Standards
Vinyl Chloride	24 Hour	0.01 ppm (26 µg/m^3)	No Federal Standards	No Federal Standards

Source: CARB 2016; USEPA 2024b

1 National Primary Standards: The levels of air quality necessary, within an adequate margin of safety, to protect public health.

2 The AAM primary NAAQS for $PM_{2.5}$ was reduced from 12 µg/m^3 to 9 µg/m^3 by a USEPA final rule issued on February 7, 2024.

3 National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

O_3 = ozone; ppm: parts per million; µg/m^3 = micrograms per cubic meter; PM_{10} = particulate matter with an aerodynamic diameter of 10 microns or less; AAM = Annual Arithmetic Mean; $PM_{2.5}$ = fine particulate matter; CO = carbon monoxide; mg/m^3 = milligrams per cubic meter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide; km = kilometer; – = No Standard

The USEPA has classified air basins (or portions thereof) as being in "attainment," "nonattainment," "maintenance," or "unclassified" for each criteria air pollutant, based on whether the NAAQS have been achieved. Upon attainment of a standard for which an area was previously designated nonattainment, the area will be classified as a maintenance area. If an area is designated unclassified, it is because inadequate air quality data were available as a basis for a nonattainment or attainment designation. The project site is located within the SDAB and, as such, is in an area designated as a nonattainment area for certain pollutants that are regulated under the CAA. Table 3, *San Diego Air Basin Attainment Status*, lists the federal and state attainment status of the SDAB for the criteria pollutants. Effective July 2, 2021, the SDAB was classified as a severe 15 nonattainment area for the 8-hour NAAQS for ozone (USEPA 2024b). The SDAB is an attainment area, or unclassifiable, for the NAAQS for all other criteria pollutants (USEPA 2024c).

Table 3
SAN DIEGO AIR BASIN ATTAINMENT STATUS

Criteria Pollutant	Federal Designation	State Designation
Ozone (1-hour)	Attainment[1]	Nonattainment
Ozone (8-hour)	Nonattainment	Nonattainment
CO	Attainment	Attainment
PM_{10}	Unclassifiable[2]	Nonattainment
$PM_{2.5}$	Attainment[3]	Nonattainment
NO_2	Attainment	Attainment
SO_2	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified
Visibility	(No federal standard)	Unclassified

Source: SDAPCD 2024a; USEPA 2024b; USEPA 2024c

[1] The federal 1-hour standard of 12 ppm was in effect from 1979 through June 15, 2005. The revoked standard is referenced here because it was employed for such a long period and because this benchmark is addressed in State Implementation Plans.

[2] At the time of designation, if the available data does not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

[3] The Federal attainment designation for the $PM_{2.5}$ NAAQS reflects the designation for the 2012 NAAQS. As of this analysis, attainment classification for the 2024 primary AAM $PM_{2.5}$ NAAQS had not been completed.

CO = carbon monoxide; PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter; NO_2 = nitrogen dioxide; SO_2 = sulfur dioxide

2.1.3 California Air Quality Regulations

2.1.3.1 California Clean Air Act

The federal CAA allows states to adopt ambient air quality standards and other regulations provided they are at least as stringent as federal standards. CARB, a part of the CalEPA, is responsible for the coordination and administration of both federal and state air pollution control programs within California, including setting the California Ambient Air Quality Standards (CAAQS). CARB also conducts research, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

In addition to primary and secondary AAQS, the state has established a set of episode criteria for ozone, CO, NO_2, SO_2, and PM. These criteria refer to episode levels representing periods of short-term exposure to air pollutants that threaten public health. Table 3, above, lists the state attainment status of the SDAB for the criteria pollutants. Under state designation, the SDAB is currently in attainment for CO, NO_2, SO_2, lead, and sulfates; unclassified for hydrogen sulfide and visibility-reducing particles; and in nonattainment for ozone (1-hour and 8-hour), PM_{10}, and $PM_{2.5}$ (SDAPCD 2024a).

2.1.3.2 State Implementation Plan

The CAA requires areas with unhealthy levels of ozone, inhalable particulate matter, carbon monoxide, nitrogen dioxide, and sulfur dioxide to develop plans, known as State Implementation Plans (SIPs). SIPs are comprehensive plans that describe how an area will attain the NAAQS. The 1990 amendments to the CAA set deadlines for attainment based on the severity of an area's air pollution problem.

SIPs are not single documents—they are a compilation of new and previously submitted plans, programs (e.g., monitoring, modeling, permitting), district rules, state regulations, and federal controls. Many of California's SIPs rely on a core set of control strategies, including emission standards for cars and heavy trucks, fuel regulations, and limits on emissions from consumer products. State law makes CARB the lead agency for all purposes related to the SIP. Local air districts and other agencies prepare SIP elements and submit them to CARB for review and approval. CARB forwards the SIP revisions to the USEPA for approval and publication in the Federal Register. The Code of Federal Regulations (CFR) Title 40, Chapter I, Part 52, Subpart F, Section 52.220 lists all of the items that are included in the California SIP (CARB 2009). At any one time, several California submittals are pending USEPA approval.

2.1.3.3 California Energy Code

California Code of Regulations (CCR) Title 24 Part 6, California's Energy Efficiency Standards for Residential and Nonresidential Buildings, were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space and water heating) results primarily in GHG emissions. The California Energy Code is discussed in further detail in Section 2.2.4, below.

2.1.4 Local Regulations

2.1.4.1 Air Quality Plans

The SDAPCD and San Diego Association of Governments (SANDAG) are responsible for developing and implementing plans for attainment and maintenance of the ambient air quality standards in the SDAB. These air quality plans provide an overview of the region's air quality and identify the pollution-control measures needed to attain and maintain air quality standards. The applicable plans for the SDAB, described below, accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the regional air quality plans and the SIP.

Attainment Plan

The regional air quality plan addressing the NAAQS for ozone in the SDAB is SDAPCD's *2020 Plan for Attaining the National Ambient Air Quality Standards for Ozone in San Diego County* (Attainment Plan). The Attainment Plan outlines SDAPCD's strategies and control measures designed to attain the NAAQS for ozone in the SDAB. Approved by the SDAPCD Board on October 14, 2020, and by CARB on November 19, 2020, the attainment plan was submitted to the USEPA on January 8, 2021, for consideration as a revision to the California SIP for attaining the ozone standards (SDAPCD 2020).

Regional Air Quality Strategy

To comply with State law, the SDAPCD must prepare an updated State Ozone Attainment Plan to identify possible new actions to further reduce emissions. Initially adopted in 1992, the Regional Air Quality Strategy (RAQS) identifies measures to reduce emissions from sources regulated by the SDAPCD, primarily stationary sources such as industrial operations and manufacturing facilities. The RAQS is periodically updated to reflect updated information on air quality, emission trends, and new feasible control measures, and was last updated in 2023 (SDAPCD 2023).

2.1.4.2 San Diego County Air Pollution Control District Rules and Regulations

Future development pursuant to the project would be required to comply with SDAPCD Rules and Regulations which require the incorporation of best management practices during construction to reduce emissions of fugitive dust.

Rule 50 (Visible Emissions)

Particulate matter pollution impacts the environment by decreasing visibility (haze). These particles vary greatly in shape, size, and chemical composition, and come from a variety of natural and manmade sources. Some haze-causing particles are directly emitted to the air such as windblown dust and soot. Others are formed in the air from the chemical transformation of gaseous pollutants (e.g., sulfates, nitrates, organic carbon particles) which are the major constituents of $PM_{2.5}$. These fine particles, caused largely by combustion of fuel, can travel hundreds of miles causing visibility impairment.

Visibility reduction is probably the most apparent symptom of air pollution. Visibility degradation is caused by the absorption and scattering of light by particles and gases in the atmosphere before it reaches the observer. As the number of fine particles increases, more light is absorbed and scattered, resulting in less clarity, color, and visual range. Light absorption by gases and particles is sometimes the cause of discolorations in the atmosphere but usually does not contribute very significantly to visibility degradation. Scattering by particulates impairs visibility much more readily. SDAPCD Rule 50 (Visible Emissions) sets emission limits based on the apparent density or opacity of the emissions using the Ringelmann scale (SDAPCD 1997).

Rule 51 (Nuisance)

SDAPCD Rule 51 (Nuisance) states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public or which endanger the comfort, repose, health or safety of any such persons or the public or which cause or have a natural tendency to cause injury or damage to business or property. The provisions of the rule do not apply to odors emanating from agricultural operations in the growing of crops or raising of fowls or animals (SDAPCD 1976)

Rule 55 (Fugitive Dust Control)

SDAPCD Rule 55 (Fugitive Dust Control) requires action be taken to limit dust from construction and demolition activities from leaving the property line. Similar to Rule 50 (Visible Emissions), Rule 55 (Fugitive Dust Control) places limits on the amount of visible dust emissions in the atmosphere beyond the property line. It further stipulates that visible dust on roadways as a result of track-out/carry-out shall be minimized through implementation of control measures and removed at the conclusion of each workday using street sweepers (SDAPCD 2009).

Rule 67.0.1 (Architectural Coatings)

Project construction would be required to comply with the SDAPCD Rule 67.0.1 (Architectural Coatings). Effective January 1, 2022, Rule 67.0.1 requires general flat and non-flat coatings (e.g., paint) to have a VOC content of 50 grams per liter (g/L) or less and traffic marking coatings to have a VOC content of 100 g/L or less (SDAPCD 2021a).

2.2 GREENHOUSE GASES

2.2.1 Climate Change Overview

Global climate change refers to changes in average climatic conditions on Earth including temperature, wind patterns, precipitation, and storms. Global temperatures are moderated by atmospheric gases.

These gases are commonly referred to as GHGs because they function like a greenhouse by letting sunlight in but preventing heat from escaping, thus warming the Earth's atmosphere.

GHGs are emitted by natural processes and human (anthropogenic) activities. Anthropogenic GHG emissions are primarily associated with: (1) the burning of fossil fuels during motorized transport, electricity generation, natural gas consumption, industrial activity, manufacturing, and other activities; (2) deforestation; (3) agricultural activity; and (4) solid waste decomposition.

The temperature record shows a decades-long trend of warming, with earth's average surface temperature in 2023 confirmed the warmest on record. Per scientists at the National Aeronautics and Space Administration's [NASA's] Goddard Institute for Space Studies, global temperatures in 2024 were around 2.3 degrees Fahrenheit (°F; 1.3 degrees Celsius) above NASA's 1951-1980 baseline period average (NASA 2025). GHG emissions from human activities are the most significant driver of observed climate change since the mid-20th century (United Nations Intergovernmental Panel on Climate Change [IPCC] 2013). The IPCC constructed several emission trajectories of GHGs needed to stabilize global temperatures and climate change impacts. The statistical models show a "high confidence" that temperature increase caused by anthropogenic GHG emissions could be kept to less than two degrees Celsius relative to pre-industrial levels if atmospheric concentrations are stabilized at about 450 parts per million (ppm) carbon dioxide equivalent (CO_2e) by the year 2100 (IPCC 2014).

2.2.2 Types of Greenhouse Gases

The GHGs defined under California's Assembly Bill (AB) 32 include carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), hydrofluorocarbons (HFCs), perfluorocarbons (PFCs), and sulfur hexafluoride (SF_6).

Carbon Dioxide. CO_2 is the most important and common anthropogenic GHG. CO_2 is an odorless, colorless GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic sources of CO_2 include burning fuels, such as coal, oil, natural gas, and wood. Data from ice cores indicate that CO_2 concentrations remained steady prior to the current period for approximately 10,000 years. Per data collected by the National Oceanic and Atmospheric Administration (NOAA) at the Mauna Loa Observatory in Hawaii, the average atmospheric CO_2 concentration in 2010 was 390 ppm, 39 percent above the concentration at the start of the Industrial Revolution (about 280 ppm in 1750). In 2023, the average atmospheric CO_2 concentration was 421 ppm, the highest annual average measured at the Mauna Loa Observatory since data collection began in 1959. As of March 2025, the CO_2 concentration exceeded 428 ppm, a 53 percent increase since 1750 (NOAA 2025).

Methane. CH_4 is the main component of natural gas used in homes. A natural source of methane is from the decay of organic matter. Geological deposits known as natural gas fields contain methane, which is extracted for fuel. Other sources are from decay of organic material in landfills, fermentation of manure, and cattle digestion.

Nitrous Oxide. N_2O is produced by both natural and human-related sources. N_2O is emitted during agricultural and industrial activities, as well as during the combustion of fossil fuels and solid waste. Primary human-related sources of N_2O are agricultural soil management, animal manure management, sewage treatment, mobile and stationary combustion of fossil fuel, adipic (fatty) acid production, and nitric acid production.

Hydrofluorocarbons. Fluorocarbons are gases formed synthetically by replacing all hydrogen atoms in methane or ethane with chlorine and/or fluorine atoms. Chlorofluorocarbons (CFCs) are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at Earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. They destroy stratospheric ozone; therefore, their production was stopped as required by the 1989 Montreal Protocol.

Sulfur Hexafluoride. SF_6 is an inorganic, odorless, colorless, nontoxic, nonflammable gas. SF_6 is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semi-conductor manufacturing, and as a tracer gas for leak detection.

GHGs have long atmospheric lifetimes that range from one year to several thousand years. Long atmospheric lifetimes allow for GHG emissions to disperse around the globe. Because GHG emissions vary widely in the power of their climatic effects, climate scientists have established a unit called global warming potential (GWP). The GWP of a gas is a measure of both potency and lifespan in the atmosphere as compared to CO_2. For example, a gas with a GWP of 10 is 10 times more potent than CO_2 over 100 years. CO_2e is a quantity that enables all GHG emissions to be considered as a group despite their varying GWP. The GWP of each GHG is multiplied by the prevalence of that gas to produce CO_2e.

Historically, GHG emission inventories have been calculated using the GWPs from the IPCC's Second Assessment Report (AR2). In 2007, IPCC updated the GWP values based on the latest science at the time in its Fourth Assessment Report (AR4). The updated GWPs in the IPCC AR4 have begun to be used in recent GHG emissions inventories. In 2013, IPCC again updated the GWP values based on the latest science in its Fifth Assessment Report (AR5) (IPCC 2013). However, the United Nations Framework Convention on Climate Change (UNFCCC) reporting guidelines for national inventories require the use of GWP values from the AR4. To comply with international reporting standards under the UNFCCC, official emission estimates for California and the U.S. are reported using AR4 GWP values, and statewide and national GHG inventories have not yet updated their GWP values to the AR5 values. GHG emissions in this analysis are reported using the AR4 GWP values.

By applying the GWP ratios, CO_2e emissions can be tabulated in metric tons per year. Typically, the GWP ratio corresponding to the warming potential of CO_2 over a 100-year period is used as a baseline. The atmospheric lifetime and GWP of selected GHGs are summarized in Table 4, *Global Warming Potentials and Atmospheric Lifetimes*.

Table 4
GLOBAL WARMING POTENTIALS AND ATMOSPHERIC LIFETIMES

Greenhouse Gas	Atmospheric Lifetime (years)	IPCC SAR GWP	IPCC AR4 GWP	IPCC AR5 GWP
Carbon Dioxide (CO_2)	50-200	1	1	1
Methane (CH_4)	12	21	25	28
Nitrous Oxide (N_2O)	114	310	298	265
HFC-134a	14	1,300	1,430	1,300
PFC: Tetrafluoromethane (CF_4)	50,000	6,500	7,390	6,630
PFC: Hexafluoroethane (C_2F_6)	10,000	9,200	12,200	11,100
Sulfur Hexafluoride (SF_6)	3,200	23,900	22,800	23,500

Source: IPCC 2007
IPCC = Intergovernmental Panel on Climate Change; GWP = global warming potential; HFC = hydrofluorocarbon; PFC = perfluorocarbon

2.2.3 Federal Greenhouse Gas Regulations

2.2.3.1 Federal Clean Air Act

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency* that CO_2 is an air pollutant, as defined under the CAA, and that the USEPA has the authority to regulate emissions of GHGs. The USEPA announced that GHGs (including CO_2, CH_4, N_2O, HFC, PFC, and SF_6) threaten the public health and welfare of the American people (USEPA 2024d). This action was a prerequisite to finalizing the USEPA's GHG emissions standards for light-duty vehicles, which were jointly proposed by the USEPA and the United States Department of Transportation's National Highway Traffic Safety Administration (NHTSA).

2.2.3.2 Light-Duty Vehicle Greenhouse Gas Emissions Standards and Corporate Average Fuel Economy Standards

The USEPA and the NHTSA worked together on developing a national program of regulations to reduce GHG emissions and improve the fuel economy of light-duty vehicles. The USEPA established the first-ever national GHG emissions standards under the CAA, and the NHTSA established Corporate Average Fuel Economy (CAFE) standards under the Energy Policy and Conservation Act. On April 1, 2010, the USEPA and NHTSA announced a joint Final Rulemaking that established standards for 2012 through 2016 model year vehicles. This was followed up on October 15, 2012, when the agencies issued a Final Rulemaking with standards for model years 2017 through 2025, and on June 7, 2024, the agencies announced a Final Rulemaking with standards for model years 2027 through 2031.

2.2.4 California Greenhouse Gas Regulations

2.2.4.1 California Code of Regulations, Title 24, Part 6

CCR Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings were first established in 1978 in response to a legislative mandate to reduce California's energy consumption. Energy-efficient buildings require less electricity, natural gas, and other fuels. Electricity production from fossil fuels and on-site fuel combustion (typically for space or water heating) results in GHG emissions. The Title 24 standards are updated approximately every three years to allow consideration and possible incorporation of new energy efficiency technologies and methods. The 2022

Title 24 standards became effective on January 1, 2023. The 2022 update to the Building Energy Efficiency Standards focuses on several key areas to improve the energy efficiency of newly constructed buildings and additions and alterations to existing buildings. New for the 2022 Title 24 standards are non-residential on-site PV (solar panels) electricity generation requirements (California Energy Commission [CEC] 2022a).

The standards are divided into three basic sets. First, there is a basic set of mandatory requirements that apply to all buildings. Second, there is a set of performance standards—the energy budgets—that vary by climate zone (of which there are 16 in California) and building type; thus, the standards are tailored to local conditions. Finally, the third set constitutes an alternative to the performance standards, which is a set of prescriptive packages that are a recipe or a checklist compliance approach.

2.2.4.2 California Green Building Standards Code

The California Green Building Standards Code (CALGreen; CCR Title 24, Part 11) is a code with mandatory requirements for all nonresidential buildings (including industrial buildings) and residential buildings for which no other state agency has the authority to adopt green building standards. CALGreen also contains voluntary measures (i.e., Tier 1, Tier 2) which exceed minimum regulatory requirements. The 2022 Standards for new construction of, and additions and alterations to, residential and nonresidential buildings became effective on January 1, 2023 (California Building Standards Commission [CBSC] 2022).

The development of CALGreen is intended to (1) cause a reduction in GHG emissions from buildings; (2) promote environmentally responsible, cost-effective, healthier places to live and work; (3) reduce energy and water consumption; and (4) respond to the directives by the Governor. In short, the code is established to reduce construction waste; make buildings more efficient in the use of materials and energy; and reduce environmental impact during and after construction.

CALGreen contains requirements for storm water control during construction; construction waste reduction; indoor water use reduction; material selection; natural resource conservation; site irrigation conservation; and more. The code provides for design options allowing the designer to determine how best to achieve compliance for a given site or building condition. The code also requires building commissioning, which is a process for the verification that all building systems, like heating and cooling equipment and lighting systems, are functioning at their maximum efficiency.

2.2.4.3 Executive Order S-3-05

On June 1, 2005, Executive Order (EO) S-3-05 proclaimed that California is vulnerable to climate change impacts. It declared that increased temperatures could reduce snowpack in the Sierra Nevada, further exacerbate California's air quality problems, and potentially cause a rise in sea levels. To avoid or reduce climate change impacts, EO S-3-05 calls for a reduction in GHG emissions to the year 2000 level by 2010, to year 1990 levels by 2020, and to 80 percent below 1990 levels by 2050.

2.2.4.4 Assembly Bill 32 – Global Warming Solution Act of 2006

The California Global Warming Solutions Act of 2006, widely known as AB 32, requires that CARB develop and enforce regulations for the reporting and verification of statewide GHG emissions. CARB is directed by AB 32 to set a GHG emission limit, based on 1990 levels, to be achieved by 2020. The bill requires CARB to adopt rules and regulations in an open public process to achieve the maximum technologically feasible and cost-effective GHG emission reductions.

2.2.4.5 Executive Order B-30-15

On April 29, 2015, EO B-30-15 established a California GHG emission reduction target of 40 percent below 1990 levels by 2030. The EO aligns California's GHG emission reduction targets with those of leading international governments, including the 28 nation European Union. California is on track to meet or exceed the target of reducing GHGs emissions to 1990 levels by 2020, as established in AB 32. California's new emission reduction target of 40 percent below 1990 levels by 2030 will make it possible to reach the goal established by EO S-3-05 of reducing emissions 80 percent under 1990 levels by 2050.

2.2.4.6 Senate Bill 32

Senate Bill (SB) 32 (Amendments to the California Global Warming Solutions Action of 2006) extends California's GHG reduction programs beyond 2020. SB 32 amended the Health and Safety Code to include Section 38566, which contains language to authorize CARB to achieve a statewide GHG emission reduction of at least 40 percent below 1990 levels by no later than December 31, 2030. SB 32 codified the targets established by EO B-30-15 for 2030, which set the next interim step in the State's continuing efforts to pursue the long-term target expressed in EO B-30-15 of 80 percent below 1990 emissions levels by 2050.

2.2.4.7 Assembly Bill 197

A condition of approval for SB 32 was the passage of AB 197. AB 197 requires that CARB consider the social costs of GHG emissions and prioritize direct reductions in GHG emissions at mobile sources and large stationary sources. AB 197 also gives the California legislature more oversight over CARB through the addition of two legislatively appointed members to the CARB Board and the establishment a legislative committee to make recommendations about CARB programs to the legislature.

2.2.4.8 Assembly Bill 1493 – Vehicular Emissions of Greenhouse Gases

AB 1493 (Pavley) requires that CARB develop and adopt regulations that achieve "the maximum feasible reduction of GHGs emitted by passenger vehicles and light-duty truck and other vehicles determined by CARB to be vehicles whose primary use is noncommercial personal transportation in the State." On September 24, 2009, CARB adopted amendments to the Pavley regulations that intend to reduce GHG emissions in new passenger vehicles from 2009 through 2016. The amendments bind California's enforcement of AB 1493 (starting in 2009), while providing vehicle manufacturers with new compliance flexibility. In January 2012, CARB approved a new emissions-control program for model years 2017 through 2025. The program combines the control of smog, soot, and global warming gases and requirements for greater numbers of zero-emission vehicles into a single packet of standards called Advanced Clean Cars (CARB 2024c).

2.2.4.9 Assembly Bill 341

The state legislature enacted AB 341 (PRC Section 42649.2), increasing the diversion target to 75 percent statewide. AB 341 requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. The final regulation was approved by the Office of Administrative Law on May 7, 2012, and went into effect on July 1, 2012.

2.2.4.10 Executive Order S-01-07

This EO, signed by Governor Schwarzenegger on January 18, 2007, directs that a statewide goal be established to reduce the carbon intensity of California's transportation fuels by at least 10 percent by the year 2020. It orders that a Low Carbon Fuel Standard (LCFS) for transportation fuels be established for California and directs CARB to determine whether a LCFS can be adopted as a discrete early action measure pursuant to AB 32. CARB approved the LCFS as a discrete early action item with a regulation adopted and implemented in April 2010. Although challenged in 2011, the Ninth Circuit reversed the District Court's opinion and rejected arguments that implementing LCFS violates the interstate commerce clause in September 2013. CARB is therefore continuing to implement the LCFS statewide.

2.2.4.11 Senate Bill 350

Approved by Governor Brown on October 7, 2015, SB 350 increases California's renewable electricity procurement goal from 33 percent by 2020 to 50 percent by 2030. This will increase the use of Renewables Portfolio Standard eligible resources, including solar, wind, biomass, and geothermal. In addition, large utilities are required to develop and submit Integrated Resource Plans to detail how each entity will meet their customers resource needs, reduce GHG emissions, and increase the use of clean energy.

2.2.4.12 Senate Bill 375

SB 375, the Sustainable Communities and Climate Protection Act of 2008, supports the State's climate action goals to reduce GHG emissions through coordinated transportation and land use planning with the goal of more sustainable communities. Under the Sustainable Communities Act, CARB sets regional targets for GHG emissions reductions from passenger vehicle use. In 2010, CARB established these targets for 2020 and 2035 for each region covered by one of the State's metropolitan planning organizations (MPOs). CARB periodically reviews and updates the targets, as needed.

Each of California's MPOs must prepare a Sustainable Communities Strategy (SCS) as an integral part of its regional transportation plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets. Once adopted by the MPO, the RTP/SCS guides the transportation policies and investments for the region. CARB must review the adopted SCS to confirm and accept the MPO's determination that the SCS, if implemented, would meet the regional GHG targets. If the combination of measures in the SCS would not meet the regional targets, the MPO must prepare a separate alternative planning strategy (APS) to meet the targets. The APS is not a part of the RTP. Qualified projects consistent with an approved SCS or Alternative Planning Strategy categorized as "transit priority projects" would receive incentives to streamline CEQA processing.

2.2.4.13 Senate Bill 100

Approved by Governor Brown on September 10, 2018, SB 100 extends the renewable electricity procurement goals and requirements of SB 350. SB 100 requires that all retail sales of electricity to California end-use customers be procured from 100 percent eligible renewable energy resources and zero-carbon resources by the end of 2045.

2.2.4.14 Executive Order N-79-20

EO N-79-20, signed by Governor Newsom on September 23, 2020, establishes three goals for the implementation of zero emissions vehicles in California: first, 100 percent of in-state sales of new passenger cars and trucks will be zero-emissions by 2035; second, 100 percent of medium- and heavy-duty vehicles in the state will be zero-emissions vehicles by 2045 for all operations where feasible, and by 2035 for drayage trucks; and third, 100 percent of off-road vehicles and equipment will be zero emissions by 2035 where feasible.

2.2.4.15 Assembly Bill 1279

Approved by Governor Newsom on September 16, 2022, AB 1279, the California Climate Crisis Act, declares the policy of the State to achieve net zero GHG emissions as soon as possible, but no later than 2045, and achieve and maintain net negative GHG emissions thereafter, and to ensure that by 2045, statewide anthropogenic GHG emissions are reduced to at least 85 percent below the 1990 levels. AB 1279 anticipates achieving these policies through direct GHG emissions reductions, removal of CO_2 from the atmosphere (carbon capture), and an almost complete transition away from fossil fuels.

2.2.4.16 Senate Bill 905

Approved by Governor Newsom on September 16, 2022, SB 905, Carbon Sequestration: Carbon Capture, Removal, Utilization, and Storage Program, requires CARB to establish a Carbon Capture, Removal, Utilization, and Storage Program to evaluate the efficacy, safety, and viability of carbon capture, utilization, or storage technologies and CO_2 removal technologies and facilitate the capture and sequestration of CO_2 from those technologies, where appropriate. SB 905 is an integral part of achieving the state policies mandated in AB 1279.

2.2.4.17 California Air Resources Board: Scoping Plan

The Scoping Plan is a strategy CARB develops and updates at least once every five years, as required by AB 32. It lays out the transformations needed across California's society and economy to reduce emissions and reach climate targets. The current 2022 Scoping Plan is the third update to the original plan that was adopted in 2008. The initial 2008 Scoping Plan laid out a path to achieve the AB 32 mandate of returning to 1990 levels of GHG emissions by 2020, a reduction of approximately 15 percent below business as usual. The 2008 Scoping Plan included a mix of incentives, regulations, and carbon pricing, laying out the portfolio approach to addressing climate change and clearly making the case for using multiple tools to meet California's GHG emission targets. The 2013 Scoping Plan assessed progress toward achieving the 2020 mandate and made the case for addressing short-lived climate pollutants (SLCPs). The 2017 Scoping Plan also assessed the progress toward achieving the 2020 limit and provided a technologically feasible and cost-effective path to achieving the SB 32 mandate of reducing GHGs by at least 40 percent below 1990 levels by 2030.

On December 15, 2022, CARB approved the 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan). The 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by Assembly Bill 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in SLCPs; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon (CARB 2022a).

2.2.5 Regional Greenhouse Gas Plans

2.2.5.1 San Diego Association of Governments San Diego Forward: The Regional Plan

SANDAG's 2021 Regional Plan (Regional Plan) is the long-range planning document developed to address the region's housing, economic, transportation, environmental, and overall quality-of-life needs. The underlying purpose is to provide direction and guidance on future regional growth (i.e., the location of new residential and non-residential land uses) and transportation patterns throughout the region. The 2021 Regional Plan is a 30-year plan that considers how the community will grow, where residents will live, and how residents and visitors will move around the region. It combines the RTP, SCS, and Regional Comprehensive Plan. As such, the 2021 Regional Plan must comply with specific state and federal mandates. These include an SCS, per SB 375, that achieves GHG emissions reduction targets set by the CARB; compliance with federal civil rights requirements (Title VI); environmental justice considerations; air quality conformity; and public participation (SANDAG 2021).

2.2.5.2 City of San Marcos Climate Action Plan

The City's Climate Action Plan (CAP) was first adopted in 2013 in compliance with the adopted policies in the General Plan and consistent with the State of California's AB 32. On December 8, 2020, the City adopted an updated CAP. The updated 2020 CAP contains a baseline 2012 City GHG inventory and establishes projected GHG emissions and reduction targets for the year 2030 to meet the Sate's GHG reduction goals mandated by SB 32, and to make reasonable progress towards the State's post 2030 GHG reduction goals, including achieving carbon neutrality statewide by 2045. The City plans to achieve the following municipal and community GHG emissions reductions (City 2020):

- 4 percent below 2012 levels by 2020, and
- 42 percent below 2012 levels by 2030.

The CAP identifies eight strategies and 22 measures to achieve these GHG emissions reduction targets and achieve proportionate progress towards the States post 2030 GHG reduction goals. The City's CAP is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5. Development projects consistent with an applicable local qualified GHG reduction plan are eligible for streamlined GHG analysis.

2.3 ENERGY

2.3.1 Federal Regulations

At the federal level, the U.S. Department of Transportation (USDOT), the U.S. Department of Energy (DOE), and the USEPA are three agencies with significant influence over energy policies and programs. Generally, federal agencies influence and regulate transportation energy consumption through the establishment and enforcement of fuel economy standards for automobiles and light trucks, through funding of energy-related research and development projects, and through funding for transportation infrastructure improvements. Major relevant federal energy-related laws and plans are discussed below.

2.3.1.1 Federal Energy Policy and Conservation Act

First enacted in 1975, the federal Energy Policy and Conservation Act (EPCA) established fuel economy standards for on-road motor vehicles in the United States. The National Highway Traffic and Safety Administration (NHTSA), which is part of USDOT, is responsible for establishing additional vehicle standards and revising the existing standards under EPCA. Current standards require a combined passenger car and light duty truck average fuel economy of 49 miles per gallon by 2026 (NHTSA 2022). Heavy duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Fuel economy is determined based on each manufacturer's average fuel economy for their fleet of vehicles available for sale in the United States. On the basis of information gathered under the program, USDOT is authorized to assess penalties for noncompliance. Over its nearly 40-year history, this regulatory program has resulted in vastly improved fuel economy throughout the United States' vehicle fleet.

2.3.1.2 Energy Independence and Security Act of 2007

The federal Energy Independence and Security Act (EISA) of 2007 set increased fuel economy standards for motor vehicles as well as a renewable fuel standard, building energy efficiency standards, and appliance and lighting efficiency standards. The lighting efficiency standards required increasing levels of energy efficiency, ultimately requiring light bulbs by 2020 to consume 60 percent less energy and effectively phasing out the incandescent lightbulb.

Under the EISA, the EPA is responsible for developing and implementing regulations to ensure that transportation fuel sold in the United States contains a minimum volume of renewable fuel. Under the EISA, the renewable fuels program was expanded to include diesel fuel in addition to gasoline. The EISA also required the EPA to apply lifecycle GHG performance threshold standards to ensure that each category of renewable fuel emits fewer GHGs than the petroleum fuel it replaces. Additional provisions of the EISA address energy savings in government and public institutions, research for alternative energy, additional research in carbon capture, international energy programs, and the creation of "green" jobs.

2.3.1.3 Intermodal Surface Transportation Efficiency Act of 1991

The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA) promoted the development of inter-modal transportation systems to maximize mobility, as well as to address national and local interests in air quality and energy. The ISTEA contained factors that metropolitan planning organizations were required to address in developing transportation plans and programs, including some energy-related factors. To meet the new ISTEA requirements, metropolitan planning organizations adopted explicit policies defining the social, economic, energy, and environmental values that were to guide transportation decisions in that metropolitan area. The planning process for specific projects would then address these policies. Another requirement was to consider the consistency of transportation planning with federal, state, and local energy goals. Through this requirement, energy consumption was expected to become a decision criterion, along with cost and other values that determine the best transportation solution (USDOT 2024a).

2.3.1.4 The Transportation Equity Act for the 21st Century

The Transportation Equity Act for the 21st Century (TEA-21) builds upon the initiatives established in the ISTEA legislation discussed previously. 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 (USDOT 2024b).

2.3.2 State Regulations

At the state level, the CEC, California Public Utilities Commission (CPUC), and CARB all regulate different aspects of energy. The CPUC regulates privately-owned utilities in the energy, rail, telecommunications, and water sectors. The CEC collects and analyzes energy-related data, prepares statewide energy policy recommendations and plans, promotes and funds energy efficiency programs, and adopts and enforces appliance and building energy efficiency standards. California is exempt under federal law from setting state fuel economy standards for new on-road motor vehicles. CARB has responsibility for mobile source emissions in the state.

This section focuses primarily on policies, regulations, and laws in the state of California that directly pertain to the regulation of energy resources. Refer to Section 2.2, above, for a discussion of policies, regulations, and laws that target the reduction of GHG emissions and are expected to achieve co-benefits in the form of reduced demand for energy-related resources and enhanced efficiencies related to energy consumption.

2.3.2.1 State of California Energy Action Plan

The CEC and CPUC approved the first State of California Energy Action Plan in 2003. The plan established shared goals and specific actions to ensure that adequate, reliable, and reasonably priced electrical power and natural gas supplies are provided, and identified policies, strategies, and actions that are cost-effective and environmentally sound for California's consumers and taxpayers. In 2005, a second Energy Action Plan was adopted by the CEC and CPUC to reflect various policy changes and actions of the prior two years. In 2008, the CEC and CPUC determined that it was not necessary or productive to prepare a new energy action plan. This determination was based in part on a finding that the state’s energy policies have been significantly influenced by the passage of AB 32, the California Global Warming Solutions Act of 2006 (discussed above). Rather than produce a new energy action plan, the CEC and CPUC prepared an “update” that examines the state’s ongoing actions in the context of global climate change (CPUC 2008).

2.3.2.2 California Building Standards

CCR Title 24 Part 6, California’s Energy Efficiency Standards for Residential and Nonresidential Buildings, and CCR Title 24 Part 6, California Green Building Standards Code, are discussed in Section 2.2.4, above.

3.0 EXISTING CONDITIONS

The project site is currently developed with two buildings containing storage, workshop, and office space for a contractor business. Undeveloped open space remains in the northwestern portion of the site. The developed portion of the project site is generally flat while the undeveloped portion slopes up

to the north. Elevations on the site range between 600 and 650 feet above mean sea level. Land uses surrounding the project site include residential and open space to the north, industrial to the south, a mix of commercial and light industrial to the west, and commercial to the east (see Figure 2).

3.1 CLIMATE AND METEOROLOGY

The climate in southern California, including the SDAB, is controlled largely by the large-scale meteorological condition that dominates the west coast of the United States: a seasonally semi-permanent high-pressure cell centered over the northeastern Pacific Ocean, called the Pacific high, which keeps most storms from affecting the California coast. Areas within 30 miles of the coast in the San Diego region, including the project site, experience moderate temperatures and comfortable humidity.

Temperature inversion layers (inversions; layers of warmer air over colder air) affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). The highest air pollutant concentrations in the SDAB generally occur during inversions. During the summer, air quality problems in the SDAB are created due to the interaction between the ocean surface and the lower layer of the atmosphere, creating a moist marine layer. An upper layer of warm air mass forms over the cool marine layer, preventing air pollutants from dispersing upward. Additionally, hydrocarbons and NO_2 react under the strong, abundant sunlight in the San Diego region, creating smog. Light, daytime winds, predominantly from the west, further aggravate the condition by driving the air pollutants inland, toward the foothills. During the fall and winter, air quality problems are created due to CO and NO_2 emissions. High NO_2 levels usually occur during autumn or winter, on days with summer-like conditions.

The predominant wind direction in the vicinity of the project site is from the west-southwest and the average wind speed is approximately 5.5 miles per hour (mph), as measured at the McClellan-Palomar airport approximately 7 miles west of the project site (Iowa Environmental Mesonet 2023). The annual average maximum temperature in the project area is approximately 77 °F; the annual average minimum temperature is approximately 52 °F; and total precipitation in the project area averages approximately 15 inches annually, as measured at the Escondido 2 climatic station approximately 4.4 miles southeast of the project site (Western Regional Climate Center 2024). Precipitation occurs mostly during the winter and relatively infrequently during the summer.

3.2 SENSITIVE RECEPTORS

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) have identified the following groups of individuals, known as sensitive receptors, as the most likely to be affected by air pollution: adults over 65, children under 14, infants (including in utero in the third trimester of pregnancy), and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis (CARB 2005; OEHHA 2015). Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved and are referred to as sensitive receptors locations. Examples of these sensitive receptor locations are residences, schools, hospitals, and daycare centers.

The closest existing sensitive receptor locations to the project site are single-family residences adjacent to the project site to the north. A preschool/daycare facility is located adjacent to the northeast corner

of the project site. The closest school to the project site is the Missions Hills High Schools, approximately 1,740 feet (0.33 mile) to the east. There are no hospitals within one mile of the project site.

3.3 EXISTING AIR QUALITY

Attainment designations are discussed in Section 2.1 and Table 3. The SDAB, including the project site, is a federal and state nonattainment area for ozone and a state nonattainment area for PM_{10} and $PM_{2.5}$.

3.3.1 Monitored Air Quality

The SDAPCD operates a network of ambient air monitoring stations throughout the San Diego region. The purpose of the monitoring stations is to measure ambient concentrations of criteria air pollutants and determine whether the ambient air quality meets state and federal standards, pursuant to the CAAQS and the NAAQS. The nearest ambient monitoring station to the project site is the Rancho Carmel Drive monitoring station located approximately 11.8 miles south of the project site. However, the Rancho Carmel Drive monitoring station only has data from the last three years for $PM_{2.5}$ and NO_2 concentrations. The San Diego-Kearny Villa Road monitoring station (approximately 20.7 miles south of the project site) has data for ozone concentrations. There are no monitoring stations in San Diego County with data for PM_{10} in the last three years. Air quality data collected at the three monitoring stations for the years 2022 through 2024 are shown in Table 5, *Air Quality Monitoring Data*.

Table 5
AIR QUALITY MONITORING DATA

Pollutant Standard	2022	2023	2024
Ozone (O_3) – Kearny Villa Road			
Maximum concentration 1-hour period (ppm)	0.095	0.091	0.112
Maximum concentration 8-hour period (ppm)	0.083	0.079	0.080
Days above 1-hour state standard (>0.09 ppm)	1	0	2
Days above 8-hour state/federal standard (>0.070 ppm)	2	3	3
Fine Particulate Matter ($PM_{2.5}$) – Rancho Carmel			
Maximum 24-hour concentration (µg/m^3)	14.9	23.2	21.4
Measured Days above 24-hour federal standard (>35 µg/m^3)	0	0	0
Annual average (µg/m^3)	7.6	6.9	7.7
Exceed state and federal annual standard (12 µg/m^3)	No	No	No
Nitrogen Dioxide (NO_2) – Rancho Carmel			
Maximum 1-hour concentration (ppm)	0.056	0.053	0.051
Days above state 1-hour standard (0.18 ppm)	0	0	0
Days above federal 1-hour standard (0.100 ppm)	0	0	0
Annual average (ppm)	0.015	0.014	0.013
Exceed annual federal standard (0.053 ppm)	No	No	No
Exceed annual state standard (0.030 ppm)	No	No	No

Source: CARB 2026a
ppb = parts per billion; ppm = parts per million; µg/m^3 = micrograms per cubic meter.

As shown in Table 5, monitoring data at the Kearny Villa Road station reported one exceedance of the 1-hour state ozone standard in 2021 and two exceedances in 2022. Monitoring data at the Kearny Villa Road station exceeded the 8-hour state/federal ozone standard on two days in 2022 and on three days in 2023 and 2024. The Rancho Carmel Drive station reported no federal standard for $PM_{2.5}$ exceedances

from 2022 through 2024. No exceedances of the state or federal standards for NO_2 occurred from 2022 to 2024 (CARB 2026a).

3.3.2 Existing Land Use Criteria Pollutant Emissions

Emissions resulting from operation of the industrial business on the project site were analyzed using the California Emissions Estimator Model (CalEEMod), as described in Section 4.1, below. The calculated existing land use operational criteria pollutant and precursor emissions are shown in Table 6, *Existing Land Use Maximum Daily Emissions*.

Table 6
EXISTING LAND USE MAXIMUM DAILY EMISSIONS

Category	Pollutant Emissions (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile	0.1	0.1	1.1	<0.1	0.2	<0.1
Area	3.0	<0.1	4.4	<0.1	<0.1	<0.1
Energy	<0.1	0.9	0.7	<0.1	<0.1	<0.1
Total Existing Use Daily Emissions[1]	**3.0**	**1.0**	**6.2**	**<0.1**	**0.3**	**0.1**

Source: CalEEMod (output data is provided in Appendix A)
[1] Totals may not sum due to rounding.
VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides;
PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

3.4 GREENHOUSE GAS INVENTORIES

3.4.1 Worldwide and National Greenhouse Gas Inventory

In 2020, total anthropogenic GHG emissions worldwide were estimated at 49,800 million metric tons (MMT) of CO_2e emissions (PBL Netherlands Environmental Assessment Agency [PBL] 2022). The five largest emitting countries and the European Union (EU-27), together account for about 60 percent of total global GHG emissions: China (27%), the United States (12%), the European Union (about 7%), India (7%), the Russian Federation (4.5%) and Japan (2.4%) (PBL 2022).

Per USEPA Inventory of U.S. Greenhouse Gas Emissions and Sinks: 1990–2020, total United States GHG emissions were approximately 5,981 MMT CO_2e in 2020 (USEPA 2022). The primary GHG emitted by human activities in the United States was CO_2, which represented approximately 76.4% of total GHG emissions (4,760 MMT CO_2e). The largest source of CO_2, and of overall GHG emissions, was fossil-fuel combustion, which accounted for approximately 92.8% of CO_2 emissions in 2018 (5,031.8 MMT CO_2e). Relative to 1990, gross United States GHG emissions in 2020 were lower by 7.3%, down from a high of 15.2% above 1990 levels in 2007. GHG emissions decreased from 2019 to 2020 by 10.6% and overall, net emissions in 2020 were 21.4% below 2005 levels (USEPA 2022).

3.4.2 State Greenhouse Gas Inventory

CARB performed statewide inventories for the years 2000 to 2023, as shown in Table 7, *California Greenhouse Gas Emissions by Sector*. The inventory is divided into five broad sectors of economic activity: agriculture, commercial and residential, electricity generation, industrial, and transportation. Emissions are quantified in MMT CO_2e.

Table 7
CALIFORNIA GREENHOUSE GAS EMISSIONS BY SECTOR

Sector	Emissions (MMT CO_2e)			
	1990	2000	2020	2023
Agriculture and Forestry	18.9 (4%)	30.8 (7%)	31.4 (9%)	29.2 (8%)
Commercial and Residential	44.1 (10%)	44.3 (10%)	39.0 (11%)	43.3 (12%)
Electricity Generation	110.5 (26%)	104.7 (22%)	59.5 (16%)	57.2 (16%)
High Global Warming Potential	-	6.6 (1%)	21.3 (6%)	21.4 (6%)
Industrial	105.3 (24%)	92.8 (20%)	73.6 (20%)	66.9 (19%)
Recycling and Waste	-	7.0 (2%)	8.5 (2%)	8.6 (2%)
Transportation	150.6 (35%)	176.7 (38%)	135.2 (37%)	133.7 (37%)
Unspecified Remaining	1.3 (<1%)	0.0 (0%)	0.0 (0%)	0.0 (0%)
Total	**430.7**	**462.9**	**368.5**	**360.4**

Source: CARB 2007 and CARB 2026b
MMT = million metric tons; CO2e = carbon dioxide equivalent

As shown in Table 7, statewide GHG source emissions totaled 430.7 MMT CO_2e in 1990, 462.9 MMT CO_2e in 2000, 368.5 MMT CO_2e in 2020, and 360.4 MMT CO_2e in 2023. Transportation-related emissions consistently contribute the most GHG emissions, followed by electricity generation and industrial emissions (CARB 2007 and CARB 2026b).

3.4.3 Local GHG Inventory

As part of their CAP baseline, the City compiled a GHG inventory. The 2012 CAP baseline inventory as well as emissions inventories from 2013 and 2014 are shown in Table 8, *City of San Marcos Greenhouse Gas Inventory*. As shown in Table 8, the on-road transportation sector contributed the most GHG emissions in the City.

Table 8
CITY OF SAN MARCOS GREENHOUSE GAS INVENTORY

Sector	2012 Emissions (MT CO_2e)[1]	2013 Emissions (MT CO_2e)[1]	2014 Emissions (MT CO_2e)[1]
On-Road Transportation	322,000 (54%)	323,000 (54%)	323,000 (57%)
Electricity	162,000 (27%)	156,000 (26%)	138,000 (24%)
Natural Gas	75,000 (13%)	77,000(13%)	66,000(12%)
Solid Waste	15,000 (3%)	14,000 (2%)	13,000 (2%)
Off-Road Transportation	14,000 (2%)	14,000 (2%)	14,000 (2%)
Water	9,000 (2%)	9,000 (2%)	9,000 (2%)
Wastewater	3,000 (1%)	3,000 (1%)	3,000 (1%)
Total	**600,000**	**595,000**	**566,000**

Source: City 2020
[1] Total may not sum due to rounding.
MT = metric tons; CO_2e = carbon dioxide equivalent

3.4.4 Existing Land Use GHG Emissions

Emissions resulting from the operation of the industrial business on the project site were analyzed using CalEEMod, as described in Section 4.1, below. The calculated existing land use operational GHG emissions are shown in Table 9, *Existing Land Use Annual GHG Emissions*.

Table 9
EXISTING LAND USE ANNUAL GHG EMISSIONS

Emission Sources	2026 Emissions (MT CO_2e)
Vehicular (Mobile)	40.4
Area	1.5
Energy	210.6
Water/Wastewater	35.6
Solid Waste	39.6
Refrigerants	4.4
Existing Land Use Total[1]	**332.2**

Source: CalEEMod (output data is provided in Appendix A)
[1] Totals may not sum due to rounding.
GHG = greenhouse gas; MT = metric tons; CO_2e = carbon dioxide equivalent

3.5 ENERGY

3.5.1 Existing Infrastructure

Electricity and natural gas service is currently provided to the project site by the San Diego Gas & Electric company (SDG&E). The project would connect to existing SDG&E infrastructure along East Mission Road. An existing SDG&E easement occurs along the western property boundary and existing power poles in this easement would be maintained in place with implementation of the project.

3.5.2 Electricity

Electricity usage for different land use categories varies depending on the type of electricity uses in a building, the types of construction materials used in constructing the building, and the efficiency of the electricity-consuming devices used within the building. Electricity usage per capita in California has remained stable for more than thirty years because of the state's energy efficiency building standards and efficiency and conservation programs, even as the national average electricity usage per capita has steadily increased (CEC 2014).

California's electricity system has been undergoing a considerable shift from non-renewable to renewable sources in recent years. The energy resource mix has substantially changed in the past decade as new renewable energy sources have come online, and the CEC reports that coal use for California electricity sources shrank from 16.6 percent to 3 percent between 2007 and 2020, and coal use for California electricity demand will be drop to nearly zero by 2026 (CEC 2021a).

In 2022, total utility-scale electricity generation in the state of California was 287,220 gigawatt-hours (GWh), which was an increase of approximately 3.4 percent from 2021 (CEC 2022b). SDG&E serves approximately 3.7 million customers in a 4,100-square-mile service area that includes San Diego and southern Orange Counties (SDG&E 2024a). Per SDG&E reported energy use data, SDG&E customers consumed approximately 4.101 billion kilowatt-hours (kWh) of electricity in 2023 (SDG&E 2024b).

3.5.3 Natural Gas

Natural gas utility rates and services are regulated by the CPUC. In 2018, California gas utilities forecasted that they would deliver approximately 4,740 million cubic feet per day of gas to their customers, on average, under normal weather conditions. The majority of natural gas utility customers in California are residential and small commercial customers, although these customers consume only approximately 35 percent of natural gas used in the state. SDG&E provides natural gas services to San Diego County and the project area would continue to provide natural gas to the project site upon implementation of the project. SDG&E is a wholesale customer of Southern California Gas Company (SoCalGas) and currently receives all its natural gas supply from the SoCalGas System (CPUC 2024).

The majority of natural gas used in California is sourced from out-of-state natural gas basins. The state does not receive liquefied natural gas supplies. Biogas, including gas from wastewater treatment plants and dairy farms, has recently begun to be used, and the State has been encouraging its development and expansion. Natural gas from out-of-state production basins is delivered to California via the interstate natural gas pipeline system. This gas is then delivered via SoCalGas and Pacific Gas and Electric (PG&E)'s statewide network to local transmission and distribution pipelines, or local storage fields (CPUC 2024).

Statewide natural gas demand is expected to decrease at an annual average rate of 1.0 percent through 2035. The decline in throughput demand is due to modest economic growth, CPUC-mandated energy efficiency standards and programs, and SB 350 goals. Other factors that contribute to the downward trend are tighter standards created by revised Title 24 Codes and Standards, renewable electricity goals, a decline in core commercial and industrial demand, and conservation savings linked to Advanced Metering Infrastructure (California Gas and Electric Utilities 2020).

3.5.4 Transportation Fuel

Automobiles and trucks consume gasoline and diesel fuel, which are non-renewable energy products derived from petroleum. As of the end of 2022, California had approximately 35.6 million registered vehicles which consumed approximately 13.6 billion gallons of gasoline during the year (California Department of Motor Vehicles [DMV] 2024; California Department of Tax and Fee Administration 2024). Gasoline and other vehicle fuels are commercially provided commodities that would be available to the proposed project through commercial outlets.

The 2021 Integrated Energy Policy Report (IEPR) provides the CEC's assessment of energy issues facing the state of California. The IEPR includes a transportation energy and demand forecast that considers vehicles and associated fuels, consumer preferences, regulatory impacts, economic and demographic factors, and projected improvements in technology. The most recent forecast estimated that between 2021 and 2035, gasoline fuel demand for transportation in California will decline primarily due to increases in electrification and the use of zero-emission vehicles. Petroleum-based fuels will continue to represent the largest shares of transportation energy demand. Under the high-demand case for light-duty vehicles, gasoline consumption will drop from approximately 13.8 billion gross gasoline equivalents (GGE) in 2020 to approximately 11 billion GGE in 2035. Electricity consumption for transportation would increase from less than one billion GGE in 2020 to approximately four billion GGE, which includes raw energy used by the plug in-vehicles (PEV), but also the gasoline energy avoided by using more PEVs. Diesel energy forecast is less than one GGE in 2020 and will remain roughly the same in 2035 (CEC 2021b).

4.0 METHODOLOGY AND SIGNIFICANCE CRITERIA

4.1 METHODOLOGY

Criteria pollutant and GHG emissions for the operation of the existing land use on the project site and for construction and operation of the project were calculated using the CalEEMod Version 2022.1. CalEEMod is a computer model used to estimate air emissions resulting from land development projects throughout the state of California. CalEEMod was developed by the California Air Pollution Control Officers Association (CAPCOA) in collaboration with the California air quality management and air pollution control districts. The calculation methodology, source of emission factors used, and default data is described in the CalEEMod User's Guide, and Appendices C, D, and G (CAPCOA 2022).

In brief, CalEEMod is a computer model that estimates criteria air pollutant and greenhouse gas emissions from mobile (i.e., on-road vehicular) sources, area sources (e.g., fireplaces, woodstoves, landscape maintenance equipment, and consumer products), energy use (electricity and natural gas used in space heating, ventilation, and cooling; lighting; and plug-in appliances), water use and wastewater generation, solid waste disposal, and refrigerants. Emissions are estimated based on land use information input to the model by the user.

In the first module, the user defines the specific land uses that will occur at the project site. The user also selects the appropriate land use setting (urban or rural), operational year, location, climate zone, and utility provider. The input land uses, size features, and population are used throughout CalEEMod in determining default parameters and calculations in each of the subsequent modules. The input land use information consists of land use subtypes (such as convenience stores with gas pumps) and their unit or square footage quantities.

Subsequent modules include construction and operations, each of which contains submodules including off-road equipment, mobile sources (on-road vehicle emissions), area sources (e.g., architectural coatings [painting], consumer products [cleansers, aerosols, solvents]), water and wastewater, solid waste, and refrigerants. Each module comprises multiple components including an associated mitigation module to account for further reductions in the reported baseline calculations. Other inputs include trip generation rates, trip lengths, vehicle fleet mix (percentage autos, trucks, etc.), trip distribution (percent work to home, etc.), duration and schedule of construction activities, construction equipment usage, construction material import and export, as well as other parameters.

In various places the user can input additional information and/or override the default assumptions to account for project- or location-specific parameters. For this assessment, the default parameters were not changed unless project-specific information was available and noted. The CalEEMod output files are included in Appendix A to this report.

4.1.1 Construction Emissions

Construction emissions were estimated using CalEEMod based on the proposed construction phases and equipment described below.

4.1.1.1 Construction Activities

Construction activities would include demolition, site preparation, grading, building construction, architectural coatings, and paving. Excavation for underground utilities, including proposed storm drain improvements, would be included in the grading activity. Installation of underground utilities (e.g., pipes, conduit, concrete structures) would be included in the building construction activity. Construction emissions were estimated based on the timeline provided by the project engineer (Caprock Partners 2023). Construction would last approximately 13 months. Architectural coating was assumed to occur during the last two months of building construction. The quantity, duration, and intensity of construction activity influence the amount of construction emissions and related pollutant concentrations that occur at any one time. As such, the emission forecasts provided herein reflect a specific set of conservative assumptions based on the expected construction scenario wherein a relatively large amount of construction activity is occurring in a relatively intensive manner. Because of this conservative assumption, actual emissions could be less than those forecasted. If construction would be delayed or occur over a longer period, emissions could be reduced because of: (1) a more modern and cleaner-burning construction equipment fleet mix than assumed in the modeling; and/or (2) a less intensive buildout schedule (i.e., fewer daily emissions occurring over a longer time interval).

Construction was assumed to occur five days per week with equipment operating up to eight hours per day. Per the project engineer, grading soil cut would be 19,770 cubic yards (CY), and fill would be 23,080 CY resulting in a net import of 3,310 CY of soil (Caprock Partners 2023). Based on estimates from aerial image of the project site, approximately 13 truckloads of vegetation were assumed to be exported from the project site during site preparation. Based on an estimate of six inches of uncompressed pavement depth, approximately 119 tandem trailer truckloads (226 one-way trips) of asphalt would be imported to the project site during paving. The anticipated construction schedule is shown below in Table 10, *Anticipated Construction Schedule*.

Table 10
ANTICIPATED CONSTRUCTION SCHEDULE

Construction Activity	Number of Working Days
Demolition	88
Site Preparation	20
Grading	44
Building Construction	109
Architectural Coatings	43
Paving	20

Source: Caprock Partners 2023

4.1.1.2 Construction Off-Road Equipment

Construction would require the use of heavy off-road equipment. All construction equipment estimates are based on default values in CalEEMod, with a water truck added for fugitive dust control. Table 11, *Construction Equipment*, presents a summary of the modeled equipment.

Table 11
CONSTRUCTION EQUIPMENT

Equipment	Horsepower	Number	Hours/Day
Demolition			
Concrete/Industrial Saws	33	1	8
Rubber-tired Dozers	367	2	8
Excavators	36	3	8
Water Trucks	376	1	4
Site Preparation			
Rubber-tired Dozers	367	1	8
Tractors/Loaders/Backhoes	84	1	8
Water Trucks	376	1	4
Grading			
Excavators	36	1	8
Graders	148	1	8
Rubber-tired Dozers	367	1	8
Tractors/Loaders/Backhoes	84	3	8
Water Trucks	376	1	4
Building Construction			
Cranes	367	1	7
Forklifts	82	3	8
Generator Sets	14	1	8
Tractors/Loaders/Backhoes	84	3	7
Welders	46	1	8
Architectural Coating			
Air Compressors	37	1	6
Paving			
Pavers	81	2	8
Paving Equipment	89	2	8
Rollers	36	2	8

Source: CalEEMod

4.1.1.3 Construction On-Road Trips

Worker commute trips and vendor delivery trips were modeled based on CalEEMod defaults. Worker trips are anticipated to vary between 12 and 60 trips per day, depending on construction activity. Exporting debris from the site during demolition would result in approximately 1,821 one-way haul trips (an average of approximately 21 one-way trips per workday). Exporting vegetation from the site during site preparation would result in approximately 26 one-way haul trips (an average of approximately 2 one-way trips per workday). Importing soil to the site during grading would result in approximately 160 one-way haul trips (an average of approximately 9 one-way trips per workday) per day. Approximately 320 feet of all debris and soil hauling trips were assumed to be on unpaved on-site access roads. Importing asphalt to the site during paving would result in approximately 226 one-way haul trips (an average of approximately 11 one-way trips per workday). Building construction used the CalEEMod default vendor trips (approximately 12 per day). The CalEEMod default worker, vendor and haul trip distances, and default fleet mixes, were used in the model.

4.1.1.4 Construction Architectural Coatings

Architectural coatings applied during construction were assumed to be building interior and exterior building coatings and pavement marking. Per CalEEMod defaults for San Diego County all interior and exterior building coatings would have a maximum VOC content of 50 g/L and pavement marking would have a maximum VOC content of 100 g/L. These VOC content assumptions are consistent with the SDAPCD Rule 67.0.1 VOC limits, as discussed in Section 2.1.4.2.

4.1.2 Operation Emissions

Operational impacts were estimated using CalEEMod. Operational sources of emissions include mobile (transportation); area, energy, water/wastewater, and solid waste.

4.1.2.1 Mobile (Transportation) Sources

Operational emissions from mobile source emissions are associated with project-related vehicle miles traveled (VMT) (calculated in the model from trip generation and trip lengths). Per the Vehicle Miles Traveled Study, the project would generate 664 average daily trips (ADT) (Linscott Law & Greenspan [LLG] 2024a).

To be conservative in accounting for potential increased truck emissions in the project fleet mix if the project industrial space were to be used primarily for warehousing, the CalEEMod default fleet mix was adjusted using the estimated mix of passenger vehicles and trucks from the *High-Cube Warehouse Vehicle Trip Generation Analysis* report prepared for the South Coast Air Quality Management District (SCAQMD) by the Institute of Transportation Engineers (ITE). Per the ITE report, for a transload and short-term storage unrefrigerated warehouse, approximately 68.8 percent of trips would be from passenger vehicles, approximately 15.2 percent of trips would be from trucks with two to four axles, and approximately 16.0 percent of trips would be from trucks with five or more axles (ITE 2016). Two to four axle trucks were assumed to be medium-duty vehicles (MDV; 6,000 to 8,500 pounds gross vehicle weight [GVW]), light-heavy duty one (LHDT1; 8,501 to 10,000 pounds GVW), and light-heavy duty two (LHDT2; 10,001 to 14,000 pounds GVW). Five or more axle trucks were assumed to be medium-heavy duty (MHDT; 14,001 to 33,000 GVW) and heavy-heavy duty (HHDT; greater than 33,000 GVW). The CalEEMod default ratio of truck weight classes was used to calculate the project truck fleet mix and all project truck trips (207 ADT) were assigned to the industrial land use in CalEEMod. A printout of the

fleet mix calculation sheet is included as Appendix B, *Fleet Mix Calculations*, to this report. Truck trip distances were modeled using the SCAQMD recommended distance of 40 miles for warehouse projects, assuming that only the local portion of each trip (local delivery or highway access) would result in new VMT to the region (SCAQMD 2021).

The CalEEMod default ratio of vehicle fleet mix (cars, pickups, motorcycles, motorhomes, and buses) was used to calculate the project passenger vehicle fleet mix and all passenger vehicle trips (457 ADT) were assigned to the office land use in CalEEMod. The CalEEMod default trip distances were used for passenger vehicle trips.

4.1.2.2 Area Sources

Area sources include emissions from landscaping equipment, the use of consumer products, and the reapplication of architectural coatings for maintenance. Emissions associated with area sources were estimated using the CalEEMod default values.

4.1.2.3 Energy Sources

Development within the project site would use electricity for lighting, heating, cooling, and appliances. Electricity generation typically entails the combustion of fossil fuels, including natural gas and coal, which is then transmitted to end users. A building's electricity use is thus associated with the off-site or indirect emission of GHGs at the source of electricity generation (power plant). GHG emissions associated with electricity use assume the installation of on-site solar electricity generation with a capacity of 265.56 kilowatts (kW) per conceptual solar panel plans submitted by the project applicant to demonstrate consistency with the City CAP requirements. Using the National Renewable Energy Laboratory PVWatts Calculator, the project's solar panels would produce approximately 458,802 kilowatt-hours (kWh) of average annual electrical energy assuming fixed panels with an optimal panel orientation of 180 degrees and tilt angle of 28 degrees (National Renewable Energy Laboratory 2024). A printout of the PVWatts Calculator results is included as Appendix C, *Solar Calculations*, to this report. Reduction in project electrical energy use from the required solar panels was applied in the CalEEMod Measures section using Measure E-10-B, *Establish Onsite Renewable Energy Systems: Solar Power*. Per the project applicant, the project would not use natural gas. Therefore, the default CalEEMod natural gas use was converted to the equivalent energy in electricity (1,000 British Thermal Units is equal to 0.293 kW of electricity) and added to the CalEEMod default electricity use.

4.1.2.4 Water and Wastewater Sources

Water-related GHG emissions are from the conveyance and treatment of water and wastewater. Indoor water use (and wastewater generation) was modeled using CalEEMod defaults. Outdoor water use (i.e., landscape irrigation) was modeled based on the maximum water use reported in the project landscape plan: 975,491 gallons per year.

4.1.2.5 Solid Waste Sources

The disposal of solid waste produces GHG emissions from anaerobic decomposition in landfills, incineration, and transportation of waste. CalEEMod determines the GHG emissions associated with disposal of solid waste into landfills. Portions of these emissions are biogenic. CalEEMod methods for quantifying GHG emissions from solid waste are based on the IPCC method using the degradable organic content of waste. Solid waste was modeled using CalEEMod defaults.

4.1.2.6 Refrigerants

CalEEMod calculates GHG emissions associated with refrigerants (typically HFCs or blends of gases containing HFCs) which are emitted through leakage or maintenance from project refrigeration systems, freezers, and air conditioning systems. Refrigerant emissions were calculated using CalEEMod defaults.

4.1.3 Health Risk Assessment Methodology

An HRA was prepared to analyze potential health risks to nearby sensitive receptors and off-site workers from the emission of DPM during operation of the industrial site in accordance with applicable portions of the OEHHA *Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments* (OEHHA 2015). HRA modeling inputs and outputs are included in Appendix D, *HRA Modeling Input/Output*, to this report.

4.1.3.1 Toxic Air Contaminant Emissions

The TAC emissions of concern resulting from operation of the project industrial buildings would be DPM emitted by trucks circulating and idling within the project site. Because the project would not include refrigerated warehouse space, no use of diesel-powered transport refrigeration units on the project site is anticipated. Available air quality models and compilations of emissions factors do not include DPM emissions. However, because nearly all DPM consists of particles 10 microns in diameter or less, DPM emissions are approximately equal to PM_{10} exhaust emissions from diesel engines. All DPM emissions calculations used in the project HRA were based on PM_{10} exhaust emissions.

Calculations of operational DPM emissions were based on the project truck trip generation estimate and project truck fleet mix described in Section 4.1.2.1, above. Based on the project trip generation (664 ADT) reported in the Local Transportation Analysis and the percentage of trucks calculated from the High-Cube Warehouse Vehicle Trip Generation Analysis, the project would generate 207 average daily truck trips (LLG 2024; ITE 2016). Because the project would only include 14 loading docks and would not include any truck or trailer parking, it is unlikely that the project could accommodate 207 truck trips per day (an average of 7.4 trucks per loading dock per day) and truck trip assumptions are conservative (health protective).

Trucks entering and exiting the project driveways and circulating within the project site were assumed to be traveling at 10 mph. All trucks were assumed to idle at the loading docks for the maximum allowable 5 minutes after arriving and again before leaving the project site, plus one additional minute corresponding to low-speed reversing in the loading dock areas. Truck idling emissions were assumed to be approximately equivalent to truck emissions at 5 mph. All trucks were conservatively assumed to be diesel-powered. Emissions of DPM from trucks circulating and idling within the industrial site were calculated using emission factors from CARB's EMFAC2021 version 1.0.2 online database (CARB 2025). A printout of the DPM emissions calculation sheet is included in Appendix D.

4.1.3.2 Dispersion Modeling

Localized concentrations of DPM were modeled using Lakes AERMOD View version 13.0.0. The Lakes program utilizes the USEPA's AERMOD gaussian air dispersion model version 24142. Plot files from AERMOD using unitized emissions (one gram per second) for each DPM source were imported into CARB's Hotspots Analysis and Reporting Program (HARP), Air Dispersion Modeling and Risk Tool (ADMRT) version 22118. The ADMRT calculated ground-level concentrations of DPM utilizing the

imported plot files and the annual and hourly emissions inventory. The modeling input and output are included in Appendix D of this report.

Source Parameters

Trucks circulating within the project site were modeled as line volume sources following methodology/calculations recommended in the USEPA Haul Road Workgroup Final Report, using an average truck height of 4 meters (13.1 feet), the average road width for on-street travel, and an average truck width of 2.6 meters (8.5 feet) for driveways and on-site circulation (USEPA 2011). A line volume source was created for each project building leading from the street to the building loading dock area and back to the street. Truck trips were divided between line volume sources based on the project building square footage.

Trucks parked in the loading dock area and parking area were modeled as volume sources with a 12-meter (39-foot) wide base and a height of 4 meters (13.1 feet), with each volume source corresponding to 3 to 5 loading docks depending on the number of loading docks shown on the site plan: Building 1, six loading docks and two volume sources; Building 2, five loading docks and one volume source; Building 3, three loading docks and one volume sources. Locations of the modeled sources are shown in the risk isopleth figures included in Appendix D to this report.

Meteorological Data

SDAPCD provides pre-processed meteorological data suitable for use with AERMOD. The available data set most representative of conditions in the project site vicinity was from the Escondido station, approximately six miles east of the project site. The Escondido station is in an area of similar development, vegetation, and elevation as the project site. The Escondido station set includes 3 years of data collected from 2010 through 2013. Per guidance from OEHHA, dispersion modeling can account for the surface roughness and heat island effects of urban areas if the land use within a three-kilometer radius around the emissions sources is at least 50 percent developed with industrial (less than 5 percent vegetation), commercial (less than 15 percent vegetation), and medium to high-density residential land uses (less than 35 percent vegetation) (OEHHA 2015). Based on a review of aerial images, the area within three kilometers around the project site is more than 60 percent developed with commercial, industrial, and higher-density residential uses. Therefore, urban dispersion coefficients were selected in the model using the city's 2020 population of 94,833 (U.S. Census 2025).

Terrain Data

United States Geological Survey (USGS) Digital Elevation Model (DEM) files with a 30-meter resolution covering an area approximately 1.2 kilometers by 1.2 kilometer around the project site were used in the model to cover the analysis area. Terrain data was imported to the model using AERMAP, a terrain preprocessing program for AERMOD.

Receptor Modeling

To develop risk isopleths (linear contours showing equal level of risk), receptors were placed in a cartesian grid 980 meters by 980 meters (approximately 0.61 mile by 0.61 mile), centered on the project site with a grid spacing of 20 meters (66 feet). To ensure the area of maximum off-site impact was captured, receptors were placed along the project boundary at 10-meter (33 feet) intervals. Additional discrete receptors were placed at the closest primary outdoor spaces for the 9 closest residences around

the project site, 9 closest off-site worker locations (commercial or industrial buildings), and in the closest outdoor recreation area for the preschool/daycare facility located adjacent to the northeast corner of the project site. See Figure 4 for modeled receptor locations.

4.1.3.3 Risk Determination

Health risks resulting from localized concentration of DPM were estimated using the ADMRT. The latest cancer slope factors and chronic Reference Exposure Limits (RELs), and exposure paths for all TACs designated by CARB are included in ADMRT. For the residential cancer risk, an exposure duration of 30 years was selected in accordance with the OEHHA (2015) guidelines.

The model conservatively assumes that residents would be standing and breathing outdoors at the location of the property line closest to the project every day between 17 and 21 hours per day (depending on the age group, starting with infants in utero in the third trimester of pregnancy) for 30 years. The OEHHA derived intake rate percentile method was selected for cancer and non-cancer chronic scenarios. For off-site worker cancer risk, an exposure duration of 25 years was selected with an assumption of 8 hours per day, 5 days per week of exposure while standing outside with moderate intensity breathing rates, in accordance with the OEHHA guidelines. For preschool/daycare cancer risk, an exposure duration of 6 years was selected, stating at age zero, with an assumption of 8 hours per day, 5 days per week of exposure while standing outside with moderate intensity breathing rates.

Because DPM only has an inhalation cancer slope factor and an inhalation chronic REL, only the cancer risk and non-cancer chronic risk from exposure to DPM was evaluated (acute risk and 8-hour chronic risk would be zero). The risk modeling input and output are included in Appendix D of this report.

4.1.4 Significance Criteria

4.1.4.1 Air Quality Significance Criteria

Thresholds used to evaluate potential air quality and odor impacts are based on applicable criteria in the State's CEQA Guidelines Appendix G. A significant air quality and/or odor impact could occur if the implementation of the project would:

(1) Conflict with or obstruct implementation of the applicable air quality plan;

(2) Result in a cumulatively considerable net increase of any criteria pollutant for which San Diego County is non-attainment under an applicable NAAQS or CAAQS;

(3) Expose sensitive receptors to substantial pollutant concentrations; or

(4) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Appendix G of the State CEQA Guidelines states that the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. The SDAPCD has not adopted significance criteria for evaluation of emissions from typical land use development projects. However, the SDAPCD does specify Air Quality Impact Analysis (AQIA) trigger levels for new or modified stationary sources (SDAPCD Rules 20.2 and 20.3). If the

incremental levels in Rules 20.2 and 20.3 for stationary sources are exceeded, an AQIA must be performed for the proposed new or modified source.

Although the AQIA trigger levels do not generally apply to mobile sources or general land development projects, the daily emission rate AQIA trigger levels may be used as screening thresholds to evaluate the increased emissions that would be discharged to the SDAB from proposed land development projects. If project construction or operational emissions would exceed the screening level thresholds, additional air quality modeling may be needed to demonstrate that ground-level concentrations resulting from project emissions would not exceed the applicable NAAQS and CAAQS, shown in Table 2, above. SDAPCD Rules 20.2 and 20.3 do not have AQIA trigger levels for emissions of VOCs. Therefore, the construction and operation VOC thresholds adopted by the SCAQMD are used as project screening level thresholds (SCAQMD 2019). The screening level thresholds based on SDAPCD AQIA trigger levels and SCAQMD VOC thresholds are shown in Table 12, *Screening-level Thresholds for Air Quality Impact Analysis*.

Table 12
SCREENING-LEVEL THRESHOLDS FOR AIR QUALITY IMPACT ANALYSIS

Pollutant	Construction Threshold (pounds per day)	Operations Threshold (pounds per day)
Coarse Particulate Matter (PM_{10})	100	100
Fine Particulate Matter ($PM_{2.5}$)	67	67
Oxides of Nitrogen (NO_X)	250	250
Oxides of Sulfur (SO_X)	250	250
Carbon Monoxide (CO)	550	550
Volatile Organic Compounds (VOC)	75	55

Source: SDAPCD 2019; SDAPCD 2021b; SCAQMD 2019

The City has not adopted thresholds to determine the significance of exposure of sensitive receptors to TACs generated by a development project. Therefore, this analysis relies on the threshold adopted by San Diego County. For cancer risk, incrementally increased cancer risk is an estimate of the chance a person exposed to a specific source of a TAC may have of developing cancer from that exposure beyond the individual's risk of developing cancer from existing background levels of TACs in the ambient air. Impacts to sensitive receptors would be significant if the incrementally increased cancer risk to sensitive receptors resulting from exposure to project-generated TACs exceeds 10 chances per million (County 2007). Health risks associated with non-cancer chronic health risks effects or acute health risks from TAC exposure would be potentially if the maximum hazard index (HI) for sensitive receptor resulting from exposure to project-generated TACs exceeds 1.0 (County 2007).

4.1.4.2 GHG Emissions Significance Criteria

Given the relatively small levels of GHG emissions generated by a typical development in relationship to the total amount of GHG emissions generated on a national or global basis, individual development projects are not expected to result in significant, direct impacts with respect to climate change. However, given the magnitude of the impact of GHG emissions on the global climate, GHG emissions from new development could result in significant, cumulative impacts with respect to climate change. Therefore, the potential for a significant GHG impact is limited to cumulative impacts.

I:\PROJECTS\C\CaprockPatners_04658\0004_SanMarcosIndustrialPark\Map\AQ_GHG_Energy\Figures.aprx Fig4_Receptor_Locs : 04658.00002.001: 5/8/2025 - RK

0 200 Feet

Source: Aerial (SanGIS 2023)

HELIX Environmental Planning

Modeled Receptor Locations

Figure 4

According to Appendix G of the CEQA Guidelines, a project would have a significant GHG impact if it would:

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

(2) Conflict with an applicable plan, policy, or regulation adopted for the purpose of reducing the emissions of GHGs.

As described in Section 2.2.5, the City's CAP is a qualified GHG reduction plan consistent with CEQA Guidelines Section 15183.5. Development projects consistent with an applicable local qualified GHG reduction plan are eligible for streamlined GHG analysis. Development projects within the City that are consistent with the City's CAP would be consistent with statewide GHG reduction goals for 2020 (per AB 32) and 2030 (per SB 32) and would demonstrate progress towards the 2045 GHG reduction goal established by EO S-3-05. Consistency with the City's CAP is determined through the use of a CAP Consistency Review Checklist which contains questions pertaining to how a development project would be consistent with relevant CAP strategies and measures. Projects that would be consistent with relevant CAP strategies and measures demonstrated through regulatory compliance or mitigation would have less than cumulatively considerable GHG emissions. The CAP Consistency Review Checklist is included as an attachment to the City's CAP (City 2020).

4.1.4.3 Energy Significance Criteria

Thresholds used to evaluate potential impacts related to energy are based on applicable criteria in CEQA Guidelines Appendix G. A significant impact associated with energy could occur if the implementation of the proposed project would:

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

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

5.0 AIR QUALITY IMPACT ANALYSIS

This section evaluates potential impacts related to air pollutant emissions resulting from implementation of the project. Project-level air quality modeling was completed as part of this analysis. Complete modeling results are included as Appendix A of this report.

5.1 ISSUE 1: CONFLICT WITH AIR QUALITY PLANS

5.1.1 Impacts

As discussed in Section 4.2.1, the thresholds of significance for the project's criteria pollutant and precursor emissions are based on the SDAPCD AQIA trigger levels and SCAQMD VOC thresholds. These significance thresholds have been established to assist lead agencies in determining whether a project may have a significant air quality impact during the initial study. A project with emissions lower than the thresholds would not conflict with or obstruct the implementation of the district's air quality plans for attainment of the applicable NAAQS and CAAQS. As discussed in Section 5.2 below, the project would

not exceed the temporary construction-related or long-term operational-related thresholds of significance for criteria pollutants and precursor emissions.

The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for ozone. In addition, the SDAPCD's Attainment Plan includes the SDAPCD's plans and control measures for attaining the ozone NAAQS. These plans accommodate emissions from all sources, including natural sources, through implementation of control measures, where feasible, on stationary sources to attain the standards. Mobile sources are regulated by the USEPA and CARB, and the emissions and reduction strategies related to mobile sources are considered in the RAQS, Attainment Plan, and SIP.

The RAQS and Attainment Plan rely on information from CARB and SANDAG, including projected growth in San Diego County, mobile, area and all other source emissions to project future emissions and determine from that the strategies necessary for the reduction of stationary source emissions through regulatory controls. CARB mobile source emission projections and SANDAG growth projections are based on population, vehicle trends and land use plans developed by the cities and San Diego County. As such, projects that propose development that is consistent with the growth anticipated by the general plans would be consistent with the RAQS and Attainment Plan. If a project proposes development that is less dense than anticipated within the General Plan, the project would likewise be consistent with the RAQS and Attainment Plan. If a project proposes development that is greater than anticipated in the City General Plan and SANDAG's growth projections upon which the Attainment Plan is based, the project may conflict with the RAQS, Attainment Plan, and SIP and may have a potentially significant impact on air quality. This situation would warrant further analysis to determine if the project and the surrounding projects exceed the growth projections used in the RAQS and Attainment Plan for the specific subregional area.

The current General Plan land use designation for the project site is Neighborhood Commercial on the southeastern corner and Light Industrial across the remainder of the site. The project site is zoned within the transitional zone for Light Industrial to Light Industrial and Neighborhood Commercial on most of the site and the transitional zone for Light Industrial to Neighborhood Commercial within the southeastern corner. No change to the current land use or zoning designations for the project site would be required. Therefore, the project's contribution to population growth in the City would be consistent with the growth projections in the City's General Plan and the growth projections used to develop the SDAPCD's RAQS and Attainment Plan.

5.1.2 Significance of Impacts

Because implementation of the project would not result in criteria pollutant emissions exceeding thresholds and the project would be consistent with regional growth projections, the project would not conflict with or obstruct implementation of the SDAPCD's RAQS and Attainment Plan. The impact would be less than significant.

5.1.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

5.1.4 Significance After Mitigation

Impacts related to conflicts with the applicable air quality plan would be less than significant.

5.2 ISSUE 2: CUMULATIVELY CONSIDERABLE NET INCREASE OF NONATTAINMENT CRITERIA POLLUTANTS

5.2.1 Impacts

By its very nature, air pollution is largely a cumulative impact. The nonattainment status of regional pollutants is a result of past and present development within the region. The project would generate criteria pollutants and precursors in the short term during construction and the long term during operation. To determine whether a project would result in cumulatively considerable emissions that would violate an air quality standard or contribute substantially to an existing or projected air quality violation, a project's emissions are evaluated based on the quantitative emission thresholds described in Section 4.2.1.

5.2.1.1 Construction

The project construction emissions were estimated using the CalEEMod model as described in Section 4.1.1. The complete CalEEMod output files are included in Appendix A to this report. The results of the calculations for the construction of the project are compared to the screening level thresholds in Table 13, *Maximum Daily Construction Emissions*. The data shown assumes the application of water on exposed surfaces and unpaved access roads a minimum of two times per day and enforcing a speed limit on unpaved on-site access roads of 25 mph or less in compliance with SDAPCD Rule 55, Fugitive Dust.

Table 13
MAXIMUM DAILY CONSTRUCTION EMISSIONS

Activities/Year/Season	Pollutant Emissions (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Demolition - Winter	2.7	25.6	22.9	<0.1	4.5	1.4
Site Preparation - Winter	3.4	30.7	31.1	<0.1	9.3	5.2
Grading - Winter	1.9	17.2	19.9	<0.1	4.6	2.1
Grading - Summer	1.9	17.2	20.0	<0.1	4.6	2.1
Building Construction - Summer	1.3	10.8	15.9	<0.1	1.1	0.5
Building Construction, Architectural Coating - Summer	7.6	11.7	17.6	<0.1	1.2	0.6
Paving - Summer	1.6	8.2	10.9	<0.1	0.7	0.4
Maximum Daily Emissions	**7.6**	**30.7**	**31.1**	**<0.1**	**9.3**	**5.2**
Screening Threshold	*75*	*250*	*550*	*250*	*100*	*67*
Exceed Screening Threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix A); Thresholds SDAPCD 2019, SDAPCD 2021b, SCAQMD 2019
VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_X = sulfur oxides;
PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 13, the project's short-term construction-related emissions are not anticipated to exceed the screening level thresholds for emissions for any criteria pollutant or precursor. Accordingly, construction activities associated with development of the proposed project would not substantially contribute to the SDAB's nonattainment status for ozone, PM_{10}, and $PM_{2.5}$. Therefore, construction of the proposed project would not violate an air quality standard or contribute to an existing or projected air quality violation.

5.2.1.2 Operation

The project operational emissions were estimated using CalEEMod as described in Section 4.1.2. Model outputs are provided in Appendix A to this report. Table 14, *Maximum Daily Operational Emissions*, compares the project's net maximum daily operational emissions (project emissions minus existing land use emissions) with the screening level thresholds described in Section 4.2.1.

Table 14
MAXIMUM DAILY OPERATIONAL EMISSIONS

Source	Pollutant Emissions (pounds per day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Mobile	2.6	14.9	26.1	0.2	9.3	2.6
Area	4.3	<0.1	6.4	<0.1	<0.1	<0.1
Energy	0.0	0.0	0.0	0.0	0.0	0.0
Project Maximum Daily Emissions[1, 2]	**6.9**	**14.9**	**32.4**	**0.2**	**9.3**	**2.6**
Existing Land Use Maximum Daily Emissions	(3.2)	(1.0)	(6.2)	(<0.1)	(0.3)	(0.1)
Net Maximum Daily Emissions	**3.7**	**13.9**	**26.2**	**0.2**	**9.0**	**2.5**
Screening Threshold	*55*	*250*	*550*	*250*	*100*	*67*
Exceed Screening Threshold?	***No***	***No***	***No***	***No***	***No***	***No***

Source: CalEEMod (output data is provided in Appendix A); Thresholds SDAPCD 2019, SDAPCD 2021b, SCAQMD 2019
1 Total may not sum due to rounding.
2 Maximum daily emissions of VOC, CO, SO_X, PM_{10}, and $PM_{2.5}$ would occur during summer, maximum daily emission of NO_X would occur during winter.
VOC = volatile organic compounds; NO_X = nitrogen oxides; CO = carbon monoxide; SO_2 = sulfur dioxide;
PM_{10} = particulate matter 10 microns or less in diameter; $PM_{2.5}$ = particulate matter 2.5 microns or less in diameter

As shown in Table 14, both the project's operational emissions and net operational emission (project emissions less emissions for the existing land use on the project site) of criteria pollutants and precursors would be below the applicable screening thresholds of significance. Accordingly, the project's operational emissions would not substantially contribute to the SDAB nonattainment status for ozone, PM_{10}, and $PM_{2.5}$. Long-term operation of the project would not violate an air quality standard or contribute to an existing or projected air quality violation.

5.2.2 Significance of Impacts

As shown in Tables 13 and 14, above, the proposed project's construction and operational emissions of criteria pollutants and precursors would be below the screening level thresholds of significance. Therefore, the project's construction and operational emissions would not contribute to the SDAB nonattainment status of ozone, PM_{10}, and $PM_{2.5}$. Construction and operation of the project would not violate an air quality standard or contribute to an existing or projected air quality violation and the impact would be less than significant.

5.2.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

5.2.4 Significance After Mitigation

Construction and operation of the project would not violate an air quality standard or contribute to an existing or projected air quality violation and the impact would be less than significant.

5.3 ISSUE 3: IMPACTS TO SENSITIVE RECEPTORS

5.3.1 Impacts

5.3.1.1 Construction Activities

Fugitive Dust

As discussed in Section 5.2.2, the construction of the project would not result in the emission of PM in excess of the screening thresholds. In addition, the project would be required to implement fugitive dust control measures in compliance with SDAPCD Rule 55.

Toxic Air Contaminants (DPM)

Implementation of the project would result in the use of heavy-duty construction equipment, haul trucks, on-site generators, and construction worker vehicles. These vehicles and equipment could generate the TAC DPM. Generation of DPM from construction projects typically occurs in a localized area (e.g., at the project site) for a short time. Because construction activities and subsequent emissions vary depending on the phase of construction (e.g., grading, building construction), the construction-related emissions to which nearby receptors are exposed to would also vary throughout the construction period. During some equipment-intensive phases, such as grading, construction-related emissions would be higher than other less equipment-intensive phases such as building construction. Concentrations of mobile-source DPM emissions are typically reduced by 70 percent at approximately 500 feet (CARB 2005).

The dose (of TAC) to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance; a longer exposure period to a fixed quantity of emissions would result in higher health risks. Current models and methodologies for conducting cancer health risk assessments are associated with longer-term exposure periods (typically 30 years for individual residents based on guidance from OEHHA) and are best suited for evaluation of long duration TAC emissions with predictable schedules and locations. These assessment models and methodologies do not correlate well with the temporary and highly variable nature of construction activities. Cancer potency factors are based on animal lifetime studies or worker studies where there is long-term exposure to the carcinogenic agent. There is considerable uncertainty in trying to evaluate the cancer risk from projects that will only last a small fraction of a lifetime (OEHHA 2015). Considering this information, the short duration (13 months) of construction activity, the highly dispersive nature of DPM, and the fact that construction activities would occur at various locations throughout the project site, construction of the project would expose off-site sensitive receptors to substantial DPM concentrations.

5.3.1.2 Operational Activities

CO Hotspots

Vehicle exhaust is the primary source of CO in California. In an urban setting, the highest CO concentrations are generally found near congested intersections. Under typical meteorological conditions, CO concentrations tend to decrease as distance from the emissions source (i.e., congested intersection) increases. Project-generated traffic has the potential of contributing to localized "hot spots" of CO off-site. Because CO is a byproduct of incomplete combustion, exhaust emissions are worse when fossil-fueled vehicles are operated inefficiently, such as in stop-and-go traffic or through heavily congested intersections. However, the volume of traffic required for CO concentrations to exceed the NAAQS and CAAQS is very high. The SDAPCD does provide any screening guidance for analysis of CO hotspot impacts. The Bay Area Air Quality Management District (BAAQMD) provide screening guidance in their CEQA Guidelines concerning the volume of traffic which could result in a CO hotspot: intersections which carry more than 44,000 vehicles per hour; or intersections which carry more than 24,000 vehicles per hour and where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway) (BAAQMD 2023).

The project Local Transportation Analysis includes an analysis of traffic volumes for project-affected intersections. The highest volume analyzed intersection would be the intersection of San Marcos Boulevard and Twin Oaks Valley Road which is forecast to carry 4,787 vehicles during the afternoon peak hour in the near-term (2025) plus project scenario (LLG 2024b). This traffic volume is substantially below the 44,000 vehicles per hour screening level for CO hotpots suggested by the BAAQMD. Therefore, long-term operation of the project would not expose sensitive receptors to substantial localized concentrations of CO.

Toxic Air Contaminants

Potential future tenants of the project were unknown at the time of this analysis. Any tenant of the project which would propose stationary sources of TACs from industrial processes or diesel-powered internal combustion engines (e.g., generators) would be required to obtain an Authority to Construct and a Permit to Operate from the SDAPCD for the stationary sources of TAC emissions. The SDAPCD's permitting process for stationary sources of emissions includes an analysis of potential health risks to nearby sensitive receptors and off-site workers and inclusion of air toxics emissions control technology if potential health risks are determined to exceed thresholds (SDAPCD 2024b).

Implementation of the project would result in mobile source emissions of DPM from operation of the project, which could include warehouse operations. To evaluate potential impacts to sensitive receptors from project mobile source on-site operational DPM emissions, a HRA was completed, as described in Section 4.1.3, above. Because DPM does not have any acute health effect (short-term) or 8-hour non-cancer chronic effect RELs, only long-term cancer and non-cancer chronic effects were evaluated.

Non-cancer chronic (long-term) health effects are evaluated based on established RELs for each TAC and on the calculated HI. An HI less than 1 means non-cancer adverse health effects are not expected for exposed individuals. An HI of 1 or higher indicates non-cancer chronic health effects are possible (but not certain) for exposed individuals.

Unlike non-cancer chronic health effects, for exposure to carcinogens, there is no level of exposure below which no adverse health effects are expected. The incremental excess cancer risk is an estimate of the chance a person exposed to a specific source of a TAC may have of developing cancer from that exposure beyond the individual's risk of developing cancer from existing background levels of TACs in the ambient air. For context, the average cancer risk from TACs in the ambient air for an individual living in an urban area of California is 830 in 1 million (CARB 2015). Cancer risk estimates do not mean, and should not be interpreted to mean, that a person will develop cancer from estimated exposures to toxic air pollutants.

The maximum estimated community incremental health effects due to exposure to the project's DPM emissions from long-term operation of the project for the Maximally Exposed Individual Resident (MEIR; modeled receptor R4) are presented in Table 15, *Maximum Residential Incremental Health Effects*. These estimates are conservative (health protective) and assume that the resident is outdoors for the entire 30-year exposure period. The MEIR risks reported are for existing residential receptors in the project vicinity.

Table 15
MAXIMUM RESIDENTIAL INCREMENTAL HEALTH EFFECTS

	MEIR Cancer Risk (chances per million)	MEIR Non-Cancer Chronic Hazard Index
Results	1.6	0.0004
Threshold	10	1
Exceed Threshold?	*No*	*No*

Source: Lakes AERMOD View and ADMRT
MEIR = Maximally Exposed Individual Resident

The maximum estimated community incremental health effects due to exposure to the project's DPM emissions from the long-term operation of the project for the Maximally Exposed Individual Worker (MEIW) would be modeled receptor C2. Health risks for the MEIW are presented in Table 16, *Maximum Worker Incremental Health Effects*. These estimates are conservative (health protective) and assume that the worker is outdoors for the entire exposure period.

Table 16
MAXIMUM WORKER INCREMENTAL HEALTH EFFECTS

	MEIW Cancer Risk (chances per million)	MEIW Non-Cancer Chronic Hazard Index
Results	0.2	0.0007
Threshold	10	1
Exceed Threshold?	*No*	*No*

Source: Lakes AERMOD View and ADMRT
MEIW = Maximally Exposed Individual Worker

The estimated incremental excess cancer risk and non-cancer chronic hazard index due to exposure to the project's operational DPM emissions for each modeled discrete receptor location shown in Figure 4 are presented in Table 17, *Discrete Receptor Incremental Cancer and Chronic Health Effects*. The model inputs, outputs, and risk isopleth figures are available in Appendix D of this report.

Table 17
DISCRETE RECEPTOR INCREMENTAL CANCER AND CHRONIC HEALTH EFFECTS

Receptor ID	Description	Cancer Risk (chances per million)	Non-Cancer Chronic Hazard Index
R1	Single-Family Residential	1.1	0.0002
R2	Single-Family Residential	1.3	0.0003
R3	Single-Family Residential	1.4	0.0003
R4	Single-Family Residential	1.6	0.0004
R5	Single-Family Residential	1.0	0.0002
R6	Single-Family Residential	0.7	0.0002
R7	Single-Family Residential	0.5	0.0001
R8	Single-Family Residential	0.5	0.0001
R9	Single-Family Residential	0.4	0.0001
S1	Preschool/Daycare Facility	0.4	0.0002
C1	Off-Site Commercial/Industrial	0.1	0.0004
C2	Off-Site Commercial/Industrial	0.2	0.0007
C3	Off-Site Commercial/Industrial	0.1	0.0004
C4	Off-Site Commercial/Industrial	0.1	0.0003
C5	Off-Site Commercial/Industrial	0.2	0.0006
C6	Off-Site Commercial/Industrial	0.1	0.0005
C7	Off-Site Commercial/Industrial	0.1	0.0003
C8	Off-Site Commercial/Industrial	0.1	0.0002
C9	Off-Site Commercial/Industrial	0.1	0.0002

Source: Lakes AERMOD View and ADMRT

The point of maximum off-site impact for residential cancer and non-cancer chronic health risks would be on the project site north boundary at approximately Universal Transverse Mercator (UTM) coordinates Zone 11, 485881 meters East, 3667590 meters North, north of the proposed Building 3 location. No residents or off-site workers are anticipated to be at the point of maximum impact for prolonged periods. If residents were to be located at the point of maximum impact for 30 years, the estimated incremental excess cancer risk would be 3.4 in 1 million. The point of maximum impact, MEIR, and MEIW locations are shown in Figure 4.

As shown in Tables 15, 16, and 17, the incremental increased cancer risks would not exceed the County threshold of 10 in 1 million and the chronic HI would not exceed the County threshold of 1. Therefore, community health effects due to exposure to DPM emissions from the long-term operation of the project would not exceed the County thresholds, and the long-term operation of the project would not expose sensitive receptors to substantial TAC concentrations.

5.3.2 Significance of Impacts

Implementation of the project would not expose sensitive receptors to substantial pollutant concentrations, including short term construction emission of DPM and long-term operational localized CO concentrations, DPM emissions, or other TACS emissions. The impact would be less than significant.

5.3.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

5.3.4 Significance After Mitigation

Implementation of the project would not expose sensitive receptors to substantial pollutant concentrations. The impact would be less than significant.

5.4 ISSUE 4: OTHER EMISSIONS (SUCH AS THOSE LEADING TO ODORS)

5.4.1 Impacts

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting activities, refineries, landfills, dairies, and fiberglass molding operations (SCAQMD 1993). The project, involving light industrial and unrefrigerated warehouse uses, would not include any of the typical sources of odors identified by the SCAQMD. Project construction could result in minor amounts of odors associated with unburned hydrocarbons in diesel heavy equipment exhaust. The odor of these diesel exhausts is objectionable to some; however, emissions would be intermittent and would disperse rapidly, and, therefore, would not affect a substantial number of people. Therefore, the project would not result in emissions leading to odors adversely affecting a substantial number of people.

5.4.2 Significance of Impacts

Implementation of the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and the impact would be less than significant.

5.4.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

5.4.4 Significance After Mitigation

Implementation of the project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people, and the impact would be less than significant.

6.0 GREENHOUSE GAS IMPACT ANALYSIS

This section evaluates potential impacts of the proposed project related to the generation of GHG emissions. Complete modeling results are included as Appendix A of this report.

6.1 ISSUE 1: GREENHOUSE GAS EMISSIONS

6.1.1 Impacts

As described in Section 4.2.2, the significance of the project's GHG emissions is determined through an analysis of consistency with the City's CAP using the CAP Consistency Review Checklist (City 2020). Although not required for the CAP consistency analysis, the project's potential construction and operational GHG emissions were quantified and are disclosed below.

6.1.1.1 Construction Emissions

Project construction GHG emissions were estimated using the CalEEMod model as described in Section 4.1.1. Project-specific input was based on project-specific information described in Sections 1.2 and 4.1.1 and default model settings to estimate reasonably conservative conditions. Additional details of construction activities, selection of construction equipment, and other input parameters are shown in the CalEEMod output report, included in Appendix A to this report.

Emissions of GHGs related to the construction of the project would be temporary. As shown in Table 18, *Construction GHG Emissions*, total GHG emissions associated with the construction of the project are estimated at 561 MT CO_2e. For construction emissions, SCAQMD guidance recommends that the emissions be amortized (i.e., averaged) over 30 years and added to operational emissions. Averaged over 30 years, the proposed construction activities would contribute approximately 18.7 MT CO_2e emissions per year.

Table 18
CONSTRUCTION GHG EMISSIONS

Year	Emissions (MT CO_2e)
2025	173.7
2026	408.6
TOTAL[1]	**582.3**
Amortized Construction Emissions[2]	*19.4*

Source: CalEEMod (output data is provided in Appendix A)
[1] Totals may not sum due to rounding.
[2] Construction emissions are amortized over 30 years in accordance with SCAQMD guidance.
MT = metric tons; CO_2e = carbon dioxide equivalent

6.1.1.2 Operation Emissions

Project operational GHG emissions were estimated using the CalEEMod model as described in Section 4.1.2. Project-specific input was based on project-specific information described in Sections 1.2 and 4.1.2 and default model settings to estimate reasonably conservative conditions. Additional details of operational emissions and other input parameters are shown in the CalEEMod output report, included in Appendix A to this report. Details of project truck and passenger fleet mix assumptions are included in Appendix B to this report. The calculated net project operational emissions for the first anticipated full year of operation (2027) combined with amortized construction emissions are shown in Table 19, *Operational GHG Emissions*. Emissions shown account for the project on-site solar electricity generation required for City CAP consistency, as discussed in Section 4.1.2.3.

Table 19
OPERATIONAL GHG EMISSIONS

Emission Sources	2027 Emissions (MT CO_2e)
Vehicular (Mobile)	3,337.1
Area	2.2
Energy	68.6
Water/Wastewater	50.1
Solid Waste	55.5
Refrigerants	<0.1
Subtotal[1]	**3,513.4**
Construction (Annualized over 30 years)	19.4
Project Total[1]	**3,532.8**
Existing Land Use	(332.2)
Project Net Emissions	**3,200.6**

Source: CalEEMod (output data is provided in Appendix A)
[1] Totals may not sum due to rounding.
MT = metric tons; CO_2e = carbon dioxide equivalent

As shown in Table 19, the project would result in approximately 3,200 MT CO_2e per year starting in 2027.

6.1.1.3 CAP Consistency Checklist

Project consistency with the City's CAP is determined using the steps and questions contained in the CAP Consistency Review Checklist (City 2020), discussed below.

Step 1: Land Use Consistency

1. The type and size of the project would be approximately 132,810 square feet of light industrial/warehouse space (including 14,000 square feet of ancillary office space). This would exceed the light industrial screening level of 58,000 square feet. Proceed to Question 2.

2. Is the proposed project consistent with the City's existing General Plan land use designation? Yes: The current General Plan land use designation for the project site is Neighborhood Commercial on the southeastern corner and Light Industrial across the remainder of the site. The project would be consistent with the existing General Plan land use designation. Proceed to Step 2.

Step 2: CAP Measures Consistency

1. **Electric Vehicle (EV) Charging Stations (Measure T-2)**. Multi-Family Residential and Non-Residential: Will the project install EV charging stations (Level 2 or better) in at least five percent of the total parking spaces provided on-site?

   Yes: The project includes a design feature (to be enforced as a condition of approval) to install Level 2 or better EV charging stations in at least five percent of the total on-site parking spaces, for a total of at least 7 charging stations within the proposed 141 parking spaces.

2. **Bicycle Infrastructure (Measure T-8)**. Residential and Non-Residential Projects: If the following conditions are met, would the project pay its fair-share contribution to bicycle infrastructure improvements?

   - Intersection or roadway segment improvements are proposed as part of the project and,
   - The City's General Plan Mobility Element identifies bicycle infrastructure improvements at any intersection(s) or roadway segment(s) that would be improved as part of the project.

   Not Applicable: The General Plan Mobility Element identifies an existing Class II bike lane along the project's East Mission Road Frontage. The project would install new driveway cuts to the sidewalk and curb along East Mission Road and possibly new utility connections within the right of way. The sidewalks and Class II bicycle lane along East Mission Road would be restored to meet City standards upon completion of project improvements in the right of way. No fair-share contribution to bicycle infrastructure would be required.

3. **Transportation Demand Management (Measure T-9)**. Multi-Family Residential and Non-Residential: Will the project develop and implement a Transportation Demand Management (TDM) plan that includes, at a minimum, all of the TDM strategies listed below?

   - Provide discounted monthly transit passes or provide at least 25 percent transit fare subsidy to residents/employees.
   - Provide designated car-share, carpool, vanpool, and/or park-and-ride parking spaces.
   - Provide pedestrian connections between all internal uses and to all existing or planned external streets around the project site(s).
   - Provide secure bicycle parking spaces or bicycle racks, showers, and clothes lockers.
   - Encourage telecommuting for employees (allow one telecommute day per week or compressed work weeks) or provide a telecommute work center with common office space and equipment available to residents.

   Yes: Per the analysis in the project VMT study, with consideration of the project's increase in employment density, the project would result in an approximately 32 percent reduction in employee VMT compared to the regional average (LLG 2024a). However, per the City TDM Ordinance Sections 20.360.040 and 20.360.050, because the project would not be exempt from CEQA and would have GHG emissions exceeding 500 MT CO_2e per year, the project would be required to submit a plan in accordance with the City TDM Policy. The TDM policy requires a plan that includes six mandatory TDM strategies plus additional optional TDM strategies (City 2023). The project's TDM Plan is included in Appendix N to this IS/MND (LLG 2026).

4. **Reduce Parking Near Transit (Measure T-12)**. Multi-Family Residential: If located within a half-mile of a major transit stop, would the project provide at least 27 percent fewer parking spaces than required for the same use based on the City's municipal code parking requirements?

   Not Applicable: The project does not include any residential components.

5. **Water Heaters (Measure E-1)**. Residential: Will the project install one of, or a combination of, the following water heater types in place of natural gas water heaters?

Not Applicable: The project does not include any residential components.

6. **Photovoltaic Installation (Measure E-2)**. Non-Residential: Will the project install photovoltaic systems with a minimum capacity of two watts per square foot of gross floor area?

   Yes: The project includes a design feature (to be enforced as a condition of approval) to install PV panels on each building rooftop with total capacity of at least two watts per square foot of gross floor area. The project proposes PV panels with a total capacity of 265,561.2 watts, exceeding the minimum 264,620 watts requirement.

7. **Landscaping Water Use (Measure W-1)**. Residential and Non-Residential: Will the project comply with the City's Water Efficient Landscape Ordinance?

   Yes: The project would include irrigated landscape in excess of 2,500 square feet and would be subject to the City's Water Efficient Landscape Standards per City Code Chapter 20.330.

8. **Urban Tree Canopy (Measure C-2)**. Multi-Family Residential and Non-Residential: If the project is providing more than 10 parking spaces, will the project plant at least one tree per five parking spaces provided?

   Yes: The project includes a design feature (to be enforced as a condition of approval) to plant at least one tree per five parking spaces provided. The project proposes 135 trees to be planted on the site and 141 parking spaces.

6.1.2 Significance of Impacts

As described in Section 2.2.5, the City's CAP is a qualified GHG reduction plan consistent with CEQA guidelines Section 15183.5. Projects that would be consistent with a qualified GHG reduction plan would have less than cumulatively considerable GHG emissions. The project would be consistent with the City's CAP as determined following the CAP Consistency Review Checklist. The project would implement all applicable CAP measures with the inclusion of PDFs (enforced as conditions of approval) or as required by the City Code. Therefore, implementation of the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be less than significant.

6.1.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

6.1.4 Significance After Mitigation

Implementation of the project would not generate GHG emissions, either directly or indirectly, that may have a significant impact on the environment, and the impact would be less than significant.

6.2 ISSUE 2: CONFLICT WITH APPLICABLE PLANS ADOPTED FOR THE PURPOSE OF REDUCING GHG EMISSIONS

6.2.1 Impacts

There are numerous State plans, policies, and regulations adopted to reduce GHG emissions. The principal overall State plan and policy is AB 32, the California Global Warming Solutions Act of 2006. The quantitative goal of AB 32 is to reduce GHG emissions to 1990 levels by 2020. SB 32 would require further reductions of 40 percent below 1990 levels by 2030. Because the project's operational year is post-2020, the project aims to reach the quantitative goals set by SB 32. Statewide plans and regulations such as GHG emissions standards for vehicles (AB 1493), the LCFS, and regulations requiring an increasing fraction of electricity to be generated from renewable sources are being implemented at the statewide level; as such, compliance at the project level is not addressed. Therefore, the proposed project would not conflict with those plans and regulations.

6.2.1.1 San Marcos Climate Action Plan

The City's CAP was developed to ensure community-wide GHG emissions in San Marcos would meet the state's 2020 and 2030 GHG reduction goals mandated by AB 32 and SB 32 and demonstrate progress towards achieving the state's post-2030 GHG reduction goals. As discussed in Section 6.1, above, based on analysis using the City's CAP checklist, the project would not conflict with the City's CAP.

6.2.1.2 2022 Scoping Plan

As discussed in Section 2.2.4, the 2022 Scoping Plan lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. Appendix D to the 2022 Scoping Plan includes recommendations for local government actions that align with the State's climate goals, with a focus on local GHG reduction strategies and approval of new land use development. The 2022 Scoping Plan appendix identifies three priority areas that address the State's largest sources of emissions that local governments have authority or influence over (CARB 2022b):

1. Transportation electrification
2. VMT reduction
3. Building decarbonization

The project would provide level 2 EV charging stations in five percent of on-site parking spaces in accordance with the City CAP checklist requirements. Per the analysis in the project VMT study, with consideration of the project's increase in employment density, the project would result in an approximately 32 percent reduction in employee VMT compared to the regional average (LLG 2024a). The project would be all-electric (would not use natural gas). Therefore, the project would include GHG reductions in the three local action priority areas identified in Appendix D to the 2022 Scoping Plan, and the project would not conflict with the 2022 Scoping Plan.

6.2.1.3 Regional Plan

A reduction in regional VMT (and VMT-related GHG emissions) is a primary objective of the Regional Plan as the San Diego County RTP/SCS in accordance with the mandates of SB 375. Per the analysis in the project VMT study, with consideration of the project's increase in employment density, the project would result in an approximately 32 percent reduction in employee VMT compared to the regional average (LLG 2024a). In addition, as discussed in Section 5.2.1, the project would be consistent with the General Plan land use designation and consistent with the growth projections used in the development of the Regional Plan. Therefore, the project would not conflict with the SANDAG Regional Plan.

6.2.2 Significance of Impacts

The project would not conflict with an applicable plan, policy, or regulation adopted to reduce the emissions of GHGs, including the CARB Scoping Plan, the SANDAG's Regional Plan, and the City's CAP. The impact would be less than significant.

6.2.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

6.2.4 Significance After Mitigation

The project would not conflict with an applicable plan, policy, or regulation adopted to reduce the emissions of GHGs, and the impact would be less than significant.

7.0 ENERGY IMPACT ANALYSIS

7.1 ISSUE 1: WASTEFUL, INEFFICIENT, OR UNNECESSARY ENERGY CONSUMPTION

7.1.1 Impacts

The project would result in the demand for energy resources during both construction and long-term operation, as described below.

7.1.1.1 Construction Energy Use

Project-related construction activities would consume energy, primarily in the form of diesel fuel and gasoline (for mobile construction equipment, for on-road vehicles used to transport debris, soil and supplies, and for construction worker commute trips) and electricity (for power tools and temporary construction offices). Project consumption of diesel and gasoline during construction was calculated using the estimated construction schedule, off-road equipment, and on-road trips described in Section 4.1.1; and using fuel consumption data from CARB's Off-Road Web Query version 1.1.0 and EMFAC version 1.0.3 emissions inventory databases. The project is anticipated to use 14,547 gallons of diesel and 430 gallons of gasoline during construction in 2025; and 35,512 gallons of diesel and 3,617 gallons of gasoline during construction in 2026. A printout of the project energy use calculation sheet is included in Appendix E, *Energy Use Calculations*, to this report.

The project would be required to comply with applicable state regulations. Construction equipment would be required to comply with the latest USEPA and CARB engine emissions standards. Per CALGreen regulations, the project is required to divert 65 percent of waste generated during construction from landfills. Recycling construction and demolition waste not only keeps it from being transported to the landfill, but also reduces the "upstream" energy consumption from the manufacturing of virgin material. Some incidental energy conservation would also occur through compliance with CCR Title 13, Motor Vehicles, section 2449(d)(3) Idling, which limits idling times of construction vehicles to no more than 5 minutes, thereby avoiding unnecessary and wasteful consumption of fuel.

As discussed above, there are no unusual characteristics that would necessitate the use of construction equipment that would be less energy efficient than at comparable construction sites in the region or state. Therefore, construction energy use associated with the project would be typical of similar construction projects throughout the region and state and would not be inefficient, wasteful, or unnecessary.

7.1.1.2 Operational Energy Use

Operational Transportation Energy Use

Trips by individuals traveling to and from the proposed project site are anticipated to occur using passenger vehicles, walking, cycling, or public transit. Passenger vehicles would be mostly powered by gasoline, with some fueled by diesel or electricity. Public transit would be powered by diesel or natural gas and could potentially be fueled by electricity. The project's transportation energy use was calculated using the data described in Section 4.1.2 and using transportation fuel and energy use data from CARB's EMFAC2021 version 1.0.2 emissions inventory database. During operation, the project is anticipated to use 140,036 gallons per year of gasoline, 204,059 gallons per year of diesel, 1,135 million British Thermal Units (MMBTU) of natural gas, 3,596,873 kWh per year of electricity (from EV and plug-in hybrid vehicle use). This transportation energy use does not include reductions of the existing energy use from the businesses on the project site. A printout of the project energy use calculation sheet is included in Appendix E.

Per the analysis in the project VMT study, with consideration of the project's increase in employment density, the project would result in an approximately 32 percent reduction in employee VMT compared to the regional average (LLG 2024a). This reduction in VMT has a direct correlation to reductions in transportation fuel use. Therefore, operation of the project would not result in a wasteful, inefficient, or unnecessary consumption of transportation-related energy uses.

Operational Electricity and Water Energy Use

At full buildout, the proposed project would require electricity for the buildings (for heating, cooling, and lighting), industrial equipment (equipment and energy use would depend on the building tenants, which were unknown at the time of this analysis), EV charging, parking lot and building exterior lighting, and for the supply and treatment of water and wastewater. As calculated in CalEEMod, the project would result in 3,21,095 kWh per year of direct electricity use and 231,172 kWh per year of electricity use resulting from the project's 33.2 million gallon per year of indoor water use and 0.98 million gallons per year of outdoor water use (for landscape irrigation).

The project would be required to comply with the latest Title 24 Part 6 building energy efficiency standards and the latest Title 24 Part 11 CALGreen standards (discussed in Section 2.2.4, above). In

addition, as discussed in Section 6.1.1 above, to meet the City's CAP requirements, the project would install PV panels with a total capacity of approximately 265,561 watts direct current electricity generation. This installation of PV panels serves to comply with the City's CAP, and support state renewable energy goals and the 2045 net zero carbon emissions goals mandated by AB 1279. Therefore, the operation of the project would not result in a wasteful, inefficient, or unnecessary consumption of building-related energy uses.

7.1.2 Significance of Impacts

Implementation of the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. The impact would be less than significant.

7.1.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

7.1.4 Significance After Mitigation

Implementation of the project would not result in wasteful, inefficient, or unnecessary consumption of energy resources. The impact would be less than significant.

7.2 ISSUE 2: CONFLICT WITH RENEWABLE ENERGY OR ENERGY EFFICIENCY PLANS

7.2.1 Impacts

The proposed project would comply with applicable energy standards and regulations during construction and would be built and operated in accordance with existing, applicable building regulations at the time of construction, as mandated by Title 24 Part 6 Building Energy Efficiency Standards and Title 24 Part 11 CALGreen. As discussed in Section 6.1.1, the project would implement energy efficiency and renewable energy PDFs including installing Level 2 EV charging stations in five percent of on-site parking spaces, installing PV panels with a rated capacity of approximately 265,561 watts, and planting 135 trees for parking lot shade and urban forest. In addition, the project would comply with City Code requirements for a TDM plan to encourage alternative transportation and trip reduction for project employees, and the project would comply with City Code requirements for water-efficient landscaping. Therefore, the project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency.

7.2.2 Significance of Impacts

The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and the impact would be less than significant.

7.2.3 Mitigation Framework

Impacts would be less than significant; therefore, no mitigation measures would be required.

7.2.4 Significance After Mitigation

The project would not conflict with or obstruct a state or local plan for renewable energy or energy efficiency, and the impact would be less than significant.

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Appendix A

CalEEMod Output

San Marcos Industrial Park R3 Detailed Report

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1.1. Basic Project Information

Data Field	Value
Project Name	San Marcos Industrial Park R3
Construction Start Date	10/1/2025
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	12.8
Location	33.145519047771614, -117.15155943217484
County	San Diego
City	San Marcos
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6278
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.29

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
Industrial Park	133	1000sqft	5.32	132,810	106,000	—	—	—

General Office Building	14.0	1000sqft	0.00	14,000	0.00	—	—	—
Parking Lot	97.4	1000sqft	2.23	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

Sector	#	Measure Title
Energy	E-10-B	Establish Onsite Renewable Energy Systems: Solar Power

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	7.60	17.1	20.0	0.04	0.70	3.92	4.62	0.64	1.50	2.15	4,500
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.44	30.7	31.1	0.06	1.29	8.05	9.34	1.19	4.01	5.19	6,311
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.77	8.99	10.9	0.02	0.35	1.34	1.69	0.32	0.49	0.80	2,468
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.32	1.64	1.99	< 0.005	0.06	0.25	0.31	0.06	0.09	0.15	409

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2026	7.60	17.1	20.0	0.04	0.70	3.92	4.62	0.64	1.50	2.15	4,500
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2025	2.72	25.6	22.8	0.05	0.99	3.49	4.49	0.92	0.49	1.41	5,824
2026	3.44	30.7	31.1	0.06	1.29	8.05	9.34	1.19	4.01	5.19	6,311
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2025	0.49	4.62	4.11	0.01	0.18	0.62	0.80	0.16	0.09	0.25	1,049
2026	1.77	8.99	10.9	0.02	0.35	1.34	1.69	0.32	0.49	0.80	2,468
Annual	—	—	—	—	—	—	—	—	—	—	—
2025	0.09	0.84	0.75	< 0.005	0.03	0.11	0.15	0.03	0.02	0.05	174
2026	0.32	1.64	1.99	< 0.005	0.06	0.25	0.31	0.06	0.09	0.15	409

2.3. Construction Emissions by Year, Mitigated

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

Year	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
2026	7.60	17.1	20.0	0.04	0.70	3.92	4.62	0.64	1.50	2.15	4,500
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
2025	2.72	25.6	22.8	0.05	0.99	3.49	4.49	0.92	0.49	1.41	5,824
2026	3.44	30.7	31.1	0.06	1.29	8.05	9.34	1.19	4.01	5.19	6,311
Average Daily	—	—	—	—	—	—	—	—	—	—	—
2025	0.49	4.62	4.11	0.01	0.18	0.62	0.80	0.16	0.09	0.25	1,049
2026	1.77	8.99	10.9	0.02	0.35	1.34	1.69	0.32	0.49	0.80	2,468
Annual	—	—	—	—	—	—	—	—	—	—	—

2025	0.09	0.84	0.75	< 0.005	0.03	0.11	0.15	0.03	0.02	0.05	174
2026	0.32	1.64	1.99	< 0.005	0.06	0.25	0.31	0.06	0.09	0.15	409

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.89	14.3	32.4	0.19	0.21	9.13	9.35	0.20	2.37	2.57	21,584
Mit.	6.89	14.3	32.4	0.19	0.21	9.13	9.35	0.20	2.37	2.57	21,490
% Reduced	—	—	—	—	—	—	—	—	—	—	< 0.5%
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.78	14.9	24.0	0.18	0.20	9.13	9.34	0.19	2.37	2.56	21,241
Mit.	5.78	14.9	24.0	0.18	0.20	9.13	9.34	0.19	2.37	2.56	21,147
% Reduced	—	—	—	—	—	—	—	—	—	—	< 0.5%
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	6.28	14.9	27.3	0.19	0.21	9.06	9.27	0.20	2.35	2.55	21,315
Mit.	6.28	14.9	27.3	0.19	0.21	9.06	9.27	0.20	2.35	2.55	21,221
% Reduced	—	—	—	—	—	—	—	—	—	—	< 0.5%
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.15	2.72	4.99	0.03	0.04	1.65	1.69	0.04	0.43	0.47	3,529
Mit.	1.15	2.72	4.99	0.03	0.04	1.65	1.69	0.04	0.43	0.47	3,513
% Reduced	—	—	—	—	—	—	—	—	—	—	< 0.5%

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.62	14.2	26.1	0.19	0.20	9.13	9.34	0.19	2.37	2.56	20,412
Area	4.27	0.05	6.38	< 0.005	0.01	—	0.01	0.01	—	0.01	26.4
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	508
Water	—	—	—	—	—	—	—	—	—	—	303
Waste	—	—	—	—	—	—	—	—	—	—	335
Refrig.	—	—	—	—	—	—	—	—	—	—	0.03
Total	6.89	14.3	32.4	0.19	0.21	9.13	9.35	0.20	2.37	2.57	21,584
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.56	14.9	24.0	0.18	0.20	9.13	9.34	0.19	2.37	2.56	20,095
Area	3.22	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	508
Water	—	—	—	—	—	—	—	—	—	—	303
Waste	—	—	—	—	—	—	—	—	—	—	335
Refrig.	—	—	—	—	—	—	—	—	—	—	0.03
Total	5.78	14.9	24.0	0.18	0.20	9.13	9.34	0.19	2.37	2.56	21,241
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.54	14.9	24.2	0.19	0.20	9.06	9.27	0.19	2.35	2.54	20,156
Area	3.74	0.03	3.15	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	13.0
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	508
Water	—	—	—	—	—	—	—	—	—	—	303
Waste	—	—	—	—	—	—	—	—	—	—	335
Refrig.	—	—	—	—	—	—	—	—	—	—	0.03
Total	6.28	14.9	27.3	0.19	0.21	9.06	9.27	0.20	2.35	2.55	21,315
Annual	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.46	2.71	4.41	0.03	0.04	1.65	1.69	0.04	0.43	0.46	3,337
Area	0.68	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.15

Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	84.1
Water	—	—	—	—	—	—	—	—	—	—	50.1
Waste	—	—	—	—	—	—	—	—	—	—	55.5
Refrig.	—	—	—	—	—	—	—	—	—	—	0.01
Total	1.15	2.72	4.99	0.03	0.04	1.65	1.69	0.04	0.43	0.47	3,529

2.6. Operations Emissions by Sector, Mitigated

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

Sector	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.62	14.2	26.1	0.19	0.20	9.13	9.34	0.19	2.37	2.56	20,412
Area	4.27	0.05	6.38	< 0.005	0.01	—	0.01	0.01	—	0.01	26.4
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	414
Water	—	—	—	—	—	—	—	—	—	—	303
Waste	—	—	—	—	—	—	—	—	—	—	335
Refrig.	—	—	—	—	—	—	—	—	—	—	0.03
Total	6.89	14.3	32.4	0.19	0.21	9.13	9.35	0.20	2.37	2.57	21,490
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.56	14.9	24.0	0.18	0.20	9.13	9.34	0.19	2.37	2.56	20,095
Area	3.22	—	—	—	—	—	—	—	—	—	—
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	414
Water	—	—	—	—	—	—	—	—	—	—	303
Waste	—	—	—	—	—	—	—	—	—	—	335
Refrig.	—	—	—	—	—	—	—	—	—	—	0.03
Total	5.78	14.9	24.0	0.18	0.20	9.13	9.34	0.19	2.37	2.56	21,147
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.54	14.9	24.2	0.19	0.20	9.06	9.27	0.19	2.35	2.54	20,156

Area	3.74	0.03	3.15	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	13.0
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	414
Water	—	—	—	—	—	—	—	—	—	—	303
Waste	—	—	—	—	—	—	—	—	—	—	335
Refrig.	—	—	—	—	—	—	—	—	—	—	0.03
Total	6.28	14.9	27.3	0.19	0.21	9.06	9.27	0.20	2.35	2.55	21,221
Annual	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.46	2.71	4.41	0.03	0.04	1.65	1.69	0.04	0.43	0.46	3,337
Area	0.68	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.15
Energy	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	68.6
Water	—	—	—	—	—	—	—	—	—	—	50.1
Waste	—	—	—	—	—	—	—	—	—	—	55.5
Refrig.	—	—	—	—	—	—	—	—	—	—	0.01
Total	1.15	2.72	4.99	0.03	0.04	1.65	1.69	0.04	0.43	0.47	3,513

3. Construction Emissions Details

3.1. Demolition (2025) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.62	23.6	21.4	0.04	0.97	—	0.97	0.89	—	0.89	4,105
Demolition	—	—	—	—	—	1.13	1.13	—	0.17	0.17	—
Onsite truck	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	4.24	3.85	0.01	0.17	—	0.17	0.16	—	0.16	739
Demolition	—	—	—	—	—	0.20	0.20	—	0.03	0.03	—
Onsite truck	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	0.77	0.70	< 0.005	0.03	—	0.03	0.03	—	0.03	122
Demolition	—	—	—	—	—	0.04	0.04	—	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
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	159
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.02	0.74	0.01	0.03	2.21	2.24	0.03	0.29	0.31	1,560
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	28.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.36	0.13	< 0.005	< 0.005	0.39	0.39	< 0.005	0.05	0.06	281
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.78
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.07	0.02	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	46.5

3.2. Demolition (2025) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.62	23.6	21.4	0.04	0.97	—	0.97	0.89	—	0.89	4,105
Demolition	—	—	—	—	—	1.13	1.13	—	0.17	0.17	—
Onsite truck	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	4.24	3.85	0.01	0.17	—	0.17	0.16	—	0.16	739
Demolition	—	—	—	—	—	0.20	0.20	—	0.03	0.03	—
Onsite truck	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	0.77	0.70	< 0.005	0.03	—	0.03	0.03	—	0.03	122
Demolition	—	—	—	—	—	0.04	0.04	—	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
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.71	0.00	0.00	0.15	0.15	0.00	0.03	0.03	159
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	2.02	0.74	0.01	0.03	2.21	2.24	0.03	0.29	0.31	1,560
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	28.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.01	0.36	0.13	< 0.005	< 0.005	0.39	0.39	< 0.005	0.05	0.06	281
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	4.78
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.07	0.02	< 0.005	< 0.005	0.07	0.07	< 0.005	0.01	0.01	46.5

3.3. Demolition (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.51	21.9	20.5	0.04	0.89	—	0.89	0.82	—	0.82	4,107
Demolition	—	—	—	—	—	1.13	1.13	—	0.17	0.17	—
Onsite truck	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	0.15	1.33	1.24	< 0.005	0.05	—	0.05	0.05	—	0.05	249
Demolition	—	—	—	—	—	0.07	0.07	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.24	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	41.3
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
Offsite	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.67	0.00	0.00	0.15	0.15	0.00	0.03	0.03	156
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.95	0.73	0.01	0.03	2.21	2.24	0.02	0.29	0.31	1,529
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.04	< 0.005	< 0.005	0.13	0.13	< 0.005	0.02	0.02	92.8
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	15.4

3.4. Demolition (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.51	21.9	20.5	0.04	0.89	—	0.89	0.82	—	0.82	4,107
Demolition	—	—	—	—	—	1.13	1.13	—	0.17	0.17	—
Onsite truck	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	0.15	1.33	1.24	< 0.005	0.05	—	0.05	0.05	—	0.05	249
Demolition	—	—	—	—	—	0.07	0.07	—	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
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.24	0.23	< 0.005	0.01	—	0.01	0.01	—	0.01	41.3
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
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.67	0.00	0.00	0.15	0.15	0.00	0.03	0.03	156
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.03	1.95	0.73	0.01	0.03	2.21	2.24	0.02	0.29	0.31	1,529
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.54
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.12	0.04	< 0.005	< 0.005	0.13	0.13	< 0.005	0.02	0.02	92.8
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	15.4

3.5. Site Preparation (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.37	30.4	30.3	0.06	1.29	—	1.29	1.18	—	1.18	5,985
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	1.67	1.66	< 0.005	0.07	—	0.07	0.06	—	0.06	328
Dust From Material Movement	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—
Onsite truck	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	0.30	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	54.3
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	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
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.76	0.00	0.00	0.17	0.17	0.00	0.04	0.04	178
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.19	0.07	< 0.005	< 0.005	0.21	0.22	< 0.005	0.03	0.03	148

Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	8.10
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.63
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.34

3.6. Site Preparation (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	3.37	30.4	30.3	0.06	1.29	—	1.29	1.18	—	1.18	5,985
Dust From Material Movement	—	—	—	—	—	7.67	7.67	—	3.94	3.94	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	1.67	1.66	< 0.005	0.07	—	0.07	0.06	—	0.06	328
Dust From Material Movement	—	—	—	—	—	0.42	0.42	—	0.22	0.22	—
Onsite truck	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	0.30	0.30	< 0.005	0.01	—	0.01	0.01	—	0.01	54.3
Dust From Material Movement	—	—	—	—	—	0.08	0.08	—	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
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.76	0.00	0.00	0.17	0.17	0.00	0.04	0.04	178
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.19	0.07	< 0.005	< 0.005	0.21	0.22	< 0.005	0.03	0.03	148
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.04	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	9.85
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	8.10
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.63
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	1.34

3.7. Grading (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.87	16.2	18.9	0.03	0.69	—	0.69	0.64	—	0.64	3,639

Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.87	16.2	18.9	0.03	0.69	—	0.69	0.64	—	0.64	3,639
Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	1.96	2.28	< 0.005	0.08	—	0.08	0.08	—	0.08	439
Dust From Material Movement	—	—	—	—	—	0.33	0.33	—	0.16	0.16	—
Onsite truck	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	0.36	0.42	< 0.005	0.02	—	0.02	0.01	—	0.01	72.6
Dust From Material Movement	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—
Onsite truck	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	0.06	0.05	0.76	0.00	0.00	0.15	0.15	0.00	0.03	0.03	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.85	0.33	< 0.005	0.01	1.00	1.02	0.01	0.13	0.14	696
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Worker	0.06	0.05	0.67	0.00	0.00	0.15	0.15	0.00	0.03	0.03	156
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.88	0.33	< 0.005	0.01	1.00	1.02	0.01	0.13	0.14	695
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.11	0.04	< 0.005	< 0.005	0.12	0.12	< 0.005	0.02	0.02	83.8
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	13.9

3.8. Grading (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.87	16.2	18.9	0.03	0.69	—	0.69	0.64	—	0.64	3,639
Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.87	16.2	18.9	0.03	0.69	—	0.69	0.64	—	0.64	3,639
Dust From Material Movement	—	—	—	—	—	2.76	2.76	—	1.34	1.34	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.23	1.96	2.28	< 0.005	0.08	—	0.08	0.08	—	0.08	439
Dust From Material Movement	—	—	—	—	—	0.33	0.33	—	0.16	0.16	—
Onsite truck	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	0.36	0.42	< 0.005	0.02	—	0.02	0.01	—	0.01	72.6
Dust From Material Movement	—	—	—	—	—	0.06	0.06	—	0.03	0.03	—
Onsite truck	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	0.06	0.05	0.76	0.00	0.00	0.15	0.15	0.00	0.03	0.03	165
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.85	0.33	< 0.005	0.01	1.00	1.02	0.01	0.13	0.14	696
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.67	0.00	0.00	0.15	0.15	0.00	0.03	0.03	156
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	0.88	0.33	< 0.005	0.01	1.00	1.02	0.01	0.13	0.14	695
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.08	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	19.0
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.11	0.04	< 0.005	< 0.005	0.12	0.12	< 0.005	0.02	0.02	83.8
Annual	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	3.14
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.02	0.01	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	< 0.005	13.9

3.9. 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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	2,405
Onsite truck	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	0.32	2.94	3.87	0.01	0.11	—	0.11	0.10	—	0.10	718
Onsite truck	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	0.06	0.54	0.71	< 0.005	0.02	—	0.02	0.02	—	0.02	119
Onsite truck	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	0.17	2.61	0.00	0.00	0.51	0.51	0.00	0.12	0.12	569
Vendor	0.02	0.76	0.36	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	618
Hauling	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	0.06	0.06	0.69	0.00	0.00	0.15	0.15	0.00	0.04	0.04	162
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	184
Hauling	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	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	26.8
Vendor	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	30.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.10. Building Construction (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.07	9.85	13.0	0.02	0.38	—	0.38	0.35	—	0.35	2,405
Onsite truck	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	0.32	2.94	3.87	0.01	0.11	—	0.11	0.10	—	0.10	718
Onsite truck	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	0.06	0.54	0.71	< 0.005	0.02	—	0.02	0.02	—	0.02	119
Onsite truck	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	0.17	2.61	0.00	0.00	0.51	0.51	0.00	0.12	0.12	569
Vendor	0.02	0.76	0.36	< 0.005	0.01	0.15	0.16	0.01	0.04	0.05	618
Hauling	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	0.06	0.06	0.69	0.00	0.00	0.15	0.15	0.00	0.04	0.04	162
Vendor	0.01	0.23	0.11	< 0.005	< 0.005	0.05	0.05	< 0.005	0.01	0.02	184
Hauling	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	0.13	0.00	0.00	0.03	0.03	0.00	0.01	0.01	26.8
Vendor	< 0.005	0.04	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	30.5
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Paving (2026) - Unmitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	1,516
Paving	0.22	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	83.1
Paving	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
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	13.8
Paving	< 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
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	133
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.06	0.40	0.01	0.01	0.21	0.22	0.01	0.06	0.07	834
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	7.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.57

3.12. Paving (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	1,516
Paving	0.22	—	—	—	—	—	—	—	—	—	—
Onsite truck	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	0.39	0.54	< 0.005	0.02	—	0.02	0.02	—	0.02	83.1
Paving	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
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.07	0.10	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	13.8
Paving	< 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
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	133
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.02	1.06	0.40	0.01	0.01	0.21	0.22	0.01	0.06	0.07	834
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	7.39
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.06	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	45.7

Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	1.22
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	7.57

3.13. 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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	134
Architectural Coatings	6.13	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	15.8
Architectural Coatings	0.72	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.61
Architectural Coatings	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
Offsite	—	—	—	—	—	—	—	—	—	—	—

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	114
Vendor	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	12.8
Vendor	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
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.11
Vendor	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

3.14. Architectural Coating (2026) - Mitigated

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

Location	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.86	1.13	< 0.005	0.02	—	0.02	0.02	—	0.02	134
Architectural Coatings	6.13	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.01	0.10	0.13	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	15.8
Architectural Coatings	0.72	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.61
Architectural Coatings	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
Offsite	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.03	0.52	0.00	0.00	0.10	0.10	0.00	0.02	0.02	114
Vendor	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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	12.8
Vendor	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
Annual	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	2.11
Vendor	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

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.72	13.5	13.3	0.16	0.19	6.55	6.74	0.18	1.72	1.89	17,772
General Office Building	1.89	0.76	12.7	0.03	0.02	2.58	2.60	0.02	0.65	0.67	2,640
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.62	14.2	26.1	0.19	0.20	9.13	9.34	0.19	2.37	2.56	20,412
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.72	14.0	12.0	0.16	0.19	6.55	6.74	0.18	1.72	1.89	17,599
General Office Building	1.85	0.86	12.1	0.02	0.02	2.58	2.60	0.02	0.65	0.67	2,496
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.56	14.9	24.0	0.18	0.20	9.13	9.34	0.19	2.37	2.56	20,095
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.13	2.56	2.22	0.03	0.03	1.19	1.22	0.03	0.31	0.34	2,920
General Office Building	0.33	0.15	2.20	< 0.005	< 0.005	0.47	0.47	< 0.005	0.12	0.12	417
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.46	2.71	4.41	0.03	0.04	1.65	1.69	0.04	0.43	0.46	3,337

4.1.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.72	13.5	13.3	0.16	0.19	6.55	6.74	0.18	1.72	1.89	17,772
General Office Building	1.89	0.76	12.7	0.03	0.02	2.58	2.60	0.02	0.65	0.67	2,640
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.62	14.2	26.1	0.19	0.20	9.13	9.34	0.19	2.37	2.56	20,412
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.72	14.0	12.0	0.16	0.19	6.55	6.74	0.18	1.72	1.89	17,599
General Office Building	1.85	0.86	12.1	0.02	0.02	2.58	2.60	0.02	0.65	0.67	2,496
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	2.56	14.9	24.0	0.18	0.20	9.13	9.34	0.19	2.37	2.56	20,095
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.13	2.56	2.22	0.03	0.03	1.19	1.22	0.03	0.31	0.34	2,920
General Office Building	0.33	0.15	2.20	< 0.005	< 0.005	0.47	0.47	< 0.005	0.12	0.12	417
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Total	0.46	2.71	4.41	0.03	0.04	1.65	1.69	0.04	0.43	0.46	3,337

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	450
General Office Building	—	—	—	—	—	—	—	—	—	—	46.9

Parking Lot	—	—	—	—	—	—	—	—	—	—	11.0
Total	—	—	—	—	—	—	—	—	—	—	508
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	450
General Office Building	—	—	—	—	—	—	—	—	—	—	46.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	11.0
Total	—	—	—	—	—	—	—	—	—	—	508
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	74.5
General Office Building	—	—	—	—	—	—	—	—	—	—	7.77
Parking Lot	—	—	—	—	—	—	—	—	—	—	1.82
Total	—	—	—	—	—	—	—	—	—	—	84.1

4.2.2. Electricity Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	356
General Office Building	—	—	—	—	—	—	—	—	—	—	46.9
Parking Lot	—	—	—	—	—	—	—	—	—	—	11.0
Total	—	—	—	—	—	—	—	—	—	—	414
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	356
General Office Building	—	—	—	—	—	—	—	—	—	—	46.9

Parking Lot	—	—	—	—	—	—	—	—	—	—	11.0
Total	—	—	—	—	—	—	—	—	—	—	414
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	59.0
General Office Building	—	—	—	—	—	—	—	—	—	—	7.77
Parking Lot	—	—	—	—	—	—	—	—	—	—	1.82
Total	—	—	—	—	—	—	—	—	—	—	68.6

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
General Office Building	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
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
General Office Building	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
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
General Office Building	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
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00

4.2.4. Natural Gas Emissions By Land Use - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
General Office Building	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
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
General Office Building	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
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00
General Office Building	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
Total	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	3.15	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.05	0.05	6.38	< 0.005	0.01	—	0.01	0.01	—	0.01	26.4
Total	4.27	0.05	6.38	< 0.005	0.01	—	0.01	0.01	—	0.01	26.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	3.15	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	—	—	—	—	—	—	—	—	—	—
Total	3.22	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.57	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.09	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.15
Total	0.68	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.15

4.3.2. Mitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—

Consumer Products	3.15	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.05	0.05	6.38	< 0.005	0.01	—	0.01	0.01	—	0.01	26.4
Total	4.27	0.05	6.38	< 0.005	0.01	—	0.01	0.01	—	0.01	26.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	3.15	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.07	—	—	—	—	—	—	—	—	—	—
Total	3.22	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.57	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.09	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.15
Total	0.68	< 0.005	0.57	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	2.15

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	280

General Office Building	—	—	—	—	—	—	—	—	—	—	22.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	303
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	280
General Office Building	—	—	—	—	—	—	—	—	—	—	22.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	303
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	46.4
General Office Building	—	—	—	—	—	—	—	—	—	—	3.75
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	50.1

4.4.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	280
General Office Building	—	—	—	—	—	—	—	—	—	—	22.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	303
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	280

General Office Building	—	—	—	—	—	—	—	—	—	—	22.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	303
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	46.4
General Office Building	—	—	—	—	—	—	—	—	—	—	3.75
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	50.1

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	311
General Office Building	—	—	—	—	—	—	—	—	—	—	24.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	335
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	311
General Office Building	—	—	—	—	—	—	—	—	—	—	24.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	335
Annual	—	—	—	—	—	—	—	—	—	—	—

Industrial Park	—	—	—	—	—	—	—	—	—	—	51.4
General Office Building	—	—	—	—	—	—	—	—	—	—	4.06
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	55.5

4.5.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	311
General Office Building	—	—	—	—	—	—	—	—	—	—	24.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	335
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	311
General Office Building	—	—	—	—	—	—	—	—	—	—	24.6
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	335
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	51.4
General Office Building	—	—	—	—	—	—	—	—	—	—	4.06
Parking Lot	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	55.5

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.03
Industrial Park	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.03
Industrial Park	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.03
Annual	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.01
Industrial Park	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.01

4.6.2. Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.03

Industrial Park	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.03
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.03
Industrial Park	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.03
Annual	—	—	—	—	—	—	—	—	—	—	—
General Office Building	—	—	—	—	—	—	—	—	—	—	0.01
Industrial Park	—	—	—	—	—	—	—	—	—	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	0.01

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.7.2. Mitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.8.2. Mitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.9.2. Mitigated

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

Equipment Type	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—

4.10.4. Soil Carbon Accumulation By Vegetation Type - Mitigated

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

Vegetation	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.5. Above and Belowground Carbon Accumulation by Land Use Type - Mitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Total	—	—	—	—	—	—	—	—	—	—	—

4.10.6. Avoided and Sequestered Emissions by Species - Mitigated

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

Species	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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
Demolition	Demolition	10/1/2025	1/31/2026	5.00	88.0	—
Site Preparation	Site Preparation	2/1/2026	2/28/2026	5.00	20.0	—
Grading	Grading	3/1/2026	4/30/2026	5.00	44.0	—
Building Construction	Building Construction	5/1/2026	9/30/2026	5.00	109	—
Paving	Paving	10/1/2026	10/28/2026	5.00	20.0	—
Architectural Coating	Architectural Coating	8/1/2026	9/30/2026	5.00	43.0	—

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	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Back hoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38

Grading	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

5.2.2. Mitigated

Phase Name	Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
Demolition	Concrete/Industrial Saws	Diesel	Average	1.00	8.00	33.0	0.73
Demolition	Rubber Tired Dozers	Diesel	Average	2.00	8.00	367	0.40
Demolition	Excavators	Diesel	Average	3.00	8.00	36.0	0.38
Demolition	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Site Preparation	Tractors/Loaders/Back hoes	Diesel	Average	4.00	8.00	84.0	0.37
Site Preparation	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Tractors/Loaders/Back hoes	Diesel	Average	3.00	8.00	84.0	0.37
Grading	Excavators	Diesel	Average	1.00	8.00	36.0	0.38
Grading	Off-Highway Trucks	Diesel	Average	1.00	4.00	376	0.38

Building Construction	Cranes	Diesel	Average	1.00	7.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20
Building Construction	Tractors/Loaders/Back hoes	Diesel	Average	3.00	7.00	84.0	0.37
Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.00	37.0	0.48

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	17.5	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	20.7	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	2.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	9.41	20.0	HHDT

Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	60.3	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	24.1	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	11.3	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	12.1	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.3.2. Mitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Demolition	—	—	—	—
Demolition	Worker	17.5	12.0	LDA,LDT1,LDT2
Demolition	Vendor	—	7.63	HHDT,MHDT
Demolition	Hauling	20.7	20.0	HHDT
Demolition	Onsite truck	—	—	HHDT
Site Preparation	—	—	—	—
Site Preparation	Worker	20.0	12.0	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.63	HHDT,MHDT
Site Preparation	Hauling	2.00	20.0	HHDT

Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	17.5	12.0	LDA,LDT1,LDT2
Grading	Vendor	—	7.63	HHDT,MHDT
Grading	Hauling	9.41	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	60.3	12.0	LDA,LDT1,LDT2
Building Construction	Vendor	24.1	7.63	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	12.0	LDA,LDT1,LDT2
Paving	Vendor	—	7.63	HHDT,MHDT
Paving	Hauling	11.3	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	12.1	12.0	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.63	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

Control Strategies Applied	PM10 Reduction	PM2.5 Reduction
Water unpaved roads twice daily	55%	55%
Limit vehicle speeds on unpaved roads to 25 mph	44%	44%

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	0.00	0.00	51,000	51,000	5,841

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (Cubic Yards)	Material Exported (Cubic Yards)	Acres Graded (acres)	Material Demolished (Ton of Debris)	Acres Paved (acres)
Demolition	0.00	0.00	0.00	7,287	—
Site Preparation	—	320	33.0	0.00	—
Grading	3,310	—	41.0	0.00	—
Paving	0.00	0.00	0.00	0.00	2.23

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction
Water Exposed Area	2	61%	61%
Water Demolished Area	2	36%	36%

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Industrial Park	0.00	0%
General Office Building	0.00	0%
Parking Lot	2.23	76%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	540	0.03	< 0.005
2026	0.00	45.1	0.03	< 0.005

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
Industrial Park	207	207	207	75,554	8,280	8,280	8,280	3,022,166
General Office Building	457	457	457	166,805	3,703	3,703	3,703	1,351,578
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.9.2. Mitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
Industrial Park	207	207	207	75,554	8,280	8,280	8,280	3,022,166
General Office Building	457	457	457	166,805	3,703	3,703	3,703	1,351,578
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

5.10.1.2. Mitigated

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)
0	0.00	51,000	51,000	5,841

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

5.10.4. Landscape Equipment - Mitigated

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
Industrial Park	3,487,047	45.1	0.0330	0.0040	0.00
General Office Building	363,682	45.1	0.0330	0.0040	0.00
Parking Lot	85,284	45.1	0.0330	0.0040	0.00

5.11.2. Mitigated

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)
Industrial Park	2,761,129	45.1	0.0330	0.0040	0.00
General Office Building	363,682	45.1	0.0330	0.0040	0.00

Parking Lot	85,284	45.1	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)
Industrial Park	30,712,313	975,491
General Office Building	2,488,272	0.00
Parking Lot	0.00	0.00

5.12.2. Mitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Industrial Park	30,712,313	975,491
General Office Building	2,488,272	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)
Industrial Park	165	—
General Office Building	13.0	—
Parking Lot	0.00	—

5.13.2. Mitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Industrial Park	165	—

General Office Building	13.0	—
Parking Lot	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
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.00	4.00	4.00	18.0

5.14.2. Mitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.00	4.00	18.0
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.00	4.00	4.00	18.0

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

5.15.2. Mitigated

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

5.18.1.2. Mitigated

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

5.18.1.2. Mitigated

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)

5.18.2.2. Mitigated

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	14.7	annual days of extreme heat
Extreme Precipitation	5.15	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.5	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 (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
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	N/A	N/A	N/A	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	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2
Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A

Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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 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	45.0
AQ-PM	20.6
AQ-DPM	79.0
Drinking Water	24.2
Lead Risk Housing	29.9
Pesticides	0.00
Toxic Releases	17.5
Traffic	44.6
Effect Indicators	—
CleanUp Sites	22.6
Groundwater	47.4
Haz Waste Facilities/Generators	80.8
Impaired Water Bodies	0.00
Solid Waste	0.00

Sensitive Population	—
Asthma	14.9
Cardio-vascular	52.6
Low Birth Weights	10.6
Socioeconomic Factor Indicators	—
Education	59.3
Housing	29.2
Linguistic	13.3
Poverty	32.8
Unemployment	7.14

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	39.75362505
Employed	37.66200436
Median HI	49.13383806
Education	—
Bachelor's or higher	40.07442577
High school enrollment	100
Preschool enrollment	86.2055691
Transportation	—
Auto Access	87.47593995
Active commuting	4.837674836
Social	—
2-parent households	47.74797896
Voting	75.45232901

Neighborhood	—
Alcohol availability	90.08084178
Park access	24.79147953
Retail density	74.14346208
Supermarket access	20.28743744
Tree canopy	9.200564609
Housing	—
Homeownership	89.16976774
Housing habitability	69.63941999
Low-inc homeowner severe housing cost burden	26.94726036
Low-inc renter severe housing cost burden	34.51815732
Uncrowded housing	79.21211344
Health Outcomes	—
Insured adults	43.11561658
Arthritis	31.2
Asthma ER Admissions	84.0
High Blood Pressure	71.3
Cancer (excluding skin)	29.3
Asthma	55.1
Coronary Heart Disease	47.4
Chronic Obstructive Pulmonary Disease	40.0
Diagnosed Diabetes	55.5
Life Expectancy at Birth	19.7
Cognitively Disabled	21.0
Physically Disabled	24.6
Heart Attack ER Admissions	72.6
Mental Health Not Good	51.7
Chronic Kidney Disease	45.1

Obesity	53.5
Pedestrian Injuries	19.6
Physical Health Not Good	56.1
Stroke	58.2
Health Risk Behaviors	—
Binge Drinking	10.1
Current Smoker	51.8
No Leisure Time for Physical Activity	57.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	68.4
Elderly	51.6
English Speaking	52.4
Foreign-born	21.0
Outdoor Workers	45.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	64.9
Traffic Density	72.8
Traffic Access	23.0
Other Indices	—
Hardship	39.9
Other Decision Support	—
2016 Voting	76.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	15.0

Healthy Places Index Score for Project Location (b)	54.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
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	Building areas per site plan, landscape area per landscape plan. Industrial Park lot acreage includes total building footprint and landscaped (irrigated) area. Parking Lot includes all hardscape areas. Modeled lot acreage does not include an approximately 2,953 acre hillside open space area which would not be graded or landscaped (would remain natural vegetation).
Construction: Construction Phases	Construction schedule per project engineer. Architectural coating assumed to occur concurrently with the last two month of building construction.
Construction: Off-Road Equipment	Water truck (Off-Highway Truck) added for all demolition and earth moving activities for dust suppression.
Construction: On-Road Fugitive Dust	0.3% of haul truck trip distances (approximately 320 feet) assumed to be on unpaved on-site access roads.
Construction: Trips and VMT	113 loads (226 one-way trips) of asphalt and concrete imported during paving, assuming 6 inches uncompressed depth and 16 CY per tandem trailer load.
Construction: Architectural Coatings	Per project engineer, approximately 102,000 SF total building wall area to be painted.
Construction: Paving	Percent asphalt for all hardscape areas estimated from site plan.

Operations: Vehicle Data	Trip rate calculated per project trip generation of 664 ADT from traffic engineer (LLG 2023). Mix of passenger car trips and truck trips calculated from SCAQMD High-Cube Warehouse Trip Generation Study (68.78% passenger vehicles, 31.22% trucks). Passenger car trips assigned to project office space; truck trips assigned to project industrial space.
Operations: Architectural Coatings	Per project engineer, approximately 102,000 SF total building wall area to be painted.
Operations: Water and Waste Water	Outdoor water use based on maximum annual water use report on the landscape plan.
Operations: Refrigerants	Per project engineer, only office space would include air conditioning.
Operations: Fleet Mix	To account for increased truck percentage for industrial/warehouse land use, fleet mix was calculated from SCAQMD report High-Cube Warehouse Vehicle Trip Generation Analysis (ITE 2016).
Operations: Energy Use	Per the project applicant, the project would not use natural gas. Default natural gas use was converted to equivalent electrical energy (1 kBTU = 0.293 kWh) and added to default electricity use.
Construction: Dust From Material Movement	Soil import per project engineer. Vegetation export during site preparation estimated from aerial images.

San Marcos Industrial Existing LU v2 Detailed Report

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4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

4.3. Area Emissions by Source

4.3.1. Unmitigated

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

5.10.2. Architectural Coatings

5.10.3. Landscape Equipment

5.11. Operational Energy Consumption

5.11.1. Unmitigated

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

5.13. Operational Waste Generation

5.13.1. Unmitigated

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

5.16.2. Process Boilers

5.17. User Defined

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

5.18.2. Sequestration

5.18.2.1. Unmitigated

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

6.2. Initial Climate Risk Scores

6.3. Adjusted Climate Risk Scores

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

7.2. Healthy Places Index Scores

7.3. Overall Health & Equity Scores

7.4. Health & Equity Measures

7.5. Evaluation Scorecard

7.6. Health & Equity Custom Measures

8. User Changes to Default Data

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	San Marcos Industrial Existing LU v2
Operational Year	2027
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.20
Precipitation (days)	12.8
Location	33.14572740575015, -117.15163817537456
County	San Diego
City	San Marcos
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6278
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.29

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
Industrial Park	102	1000sqft	2.35	102,294	1,200	—	—	—

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.	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.24	1.01	6.20	0.01	0.08	0.22	0.29	0.07	0.06	0.13	2,025
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.51	0.98	1.70	0.01	0.07	0.22	0.29	0.07	0.06	0.12	1,995
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.87	1.00	3.89	0.01	0.07	0.22	0.29	0.07	0.05	0.13	2,006
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.52	0.18	0.71	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	332

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.15	0.10	1.01	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	254
Area	3.05	0.04	4.45	< 0.005	0.01	—	0.01	0.01	—	0.01	18.4
Energy	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	1,272
Water	—	—	—	—	—	—	—	—	—	—	215

Waste	—	—	—	—	—	—	—	—	—	—	239
Refrig.	—	—	—	—	—	—	—	—	—	—	26.6
Total	3.24	1.01	6.20	0.01	0.08	0.22	0.29	0.07	0.06	0.13	2,025
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.10	0.96	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	242
Area	2.32	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	1,272
Water	—	—	—	—	—	—	—	—	—	—	215
Waste	—	—	—	—	—	—	—	—	—	—	239
Refrig.	—	—	—	—	—	—	—	—	—	—	26.6
Total	2.51	0.98	1.70	0.01	0.07	0.22	0.29	0.07	0.06	0.12	1,995
Average Daily	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.14	0.10	0.96	< 0.005	< 0.005	0.22	0.22	< 0.005	0.05	0.06	244
Area	2.68	0.02	2.19	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	9.05
Energy	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	1,272
Water	—	—	—	—	—	—	—	—	—	—	215
Waste	—	—	—	—	—	—	—	—	—	—	239
Refrig.	—	—	—	—	—	—	—	—	—	—	26.6
Total	2.87	1.00	3.89	0.01	0.07	0.22	0.29	0.07	0.05	0.13	2,006
Annual	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.03	0.02	0.17	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	40.4
Area	0.49	< 0.005	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.50
Energy	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	211
Water	—	—	—	—	—	—	—	—	—	—	35.6
Waste	—	—	—	—	—	—	—	—	—	—	39.6
Refrig.	—	—	—	—	—	—	—	—	—	—	4.41
Total	0.52	0.18	0.71	< 0.005	0.01	0.04	0.05	0.01	0.01	0.02	332

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.15	0.10	1.01	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	254
Total	0.15	0.10	1.01	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	254
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.14	0.10	0.96	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	242
Total	0.14	0.10	0.96	< 0.005	< 0.005	0.22	0.22	< 0.005	0.06	0.06	242
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.03	0.02	0.17	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	40.4
Total	0.03	0.02	0.17	< 0.005	< 0.005	0.04	0.04	< 0.005	0.01	0.01	40.4

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	219
Total	—	—	—	—	—	—	—	—	—	—	219
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Industrial Park	—	—	—	—	—	—	—	—	—	—	219
Total	—	—	—	—	—	—	—	—	—	—	219
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	36.3
Total	—	—	—	—	—	—	—	—	—	—	36.3

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	1,053
Total	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	1,053
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	1,053
Total	0.05	0.88	0.74	0.01	0.07	—	0.07	0.07	—	0.07	1,053
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	174
Total	0.01	0.16	0.13	< 0.005	0.01	—	0.01	0.01	—	0.01	174

4.3. Area Emissions by Source

4.3.1. Unmitigated

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

Source	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.19	—	—	—	—	—	—	—	—	—	—

Architectural Coatings	0.13	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.73	0.04	4.45	< 0.005	0.01	—	0.01	0.01	—	0.01	18.4
Total	3.05	0.04	4.45	< 0.005	0.01	—	0.01	0.01	—	0.01	18.4
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	2.19	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.13	—	—	—	—	—	—	—	—	—	—
Total	2.32	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.40	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.02	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.07	< 0.005	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.50
Total	0.49	< 0.005	0.40	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	1.50

4.4. Water Emissions by Land Use

4.4.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	215
Total	—	—	—	—	—	—	—	—	—	—	215
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—

Industrial Park	—	—	—	—	—	—	—	—	—	—	215
Total	—	—	—	—	—	—	—	—	—	—	215
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	35.6
Total	—	—	—	—	—	—	—	—	—	—	35.6

4.5. Waste Emissions by Land Use

4.5.1. Unmitigated

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

Land Use	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	239
Total	—	—	—	—	—	—	—	—	—	—	239
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	239
Total	—	—	—	—	—	—	—	—	—	—	239
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	39.6
Total	—	—	—	—	—	—	—	—	—	—	39.6

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—

Industrial Park	—	—	—	—	—	—	—	—	—	—	26.6
Total	—	—	—	—	—	—	—	—	—	—	26.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	26.6
Total	—	—	—	—	—	—	—	—	—	—	26.6
Annual	—	—	—	—	—	—	—	—	—	—	—
Industrial Park	—	—	—	—	—	—	—	—	—	—	4.41
Total	—	—	—	—	—	—	—	—	—	—	4.41

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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	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
Industrial Park	38.0	38.0	38.0	13,871	308	308	308	112,391

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

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)
0	0.00	153,441	51,147	—

5.10.3. Landscape Equipment

Season	Unit	Value
Snow Days	day/yr	0.00
Summer Days	day/yr	180

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)
Industrial Park	1,697,525	45.1	0.0330	0.0040	3,275,763

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Industrial Park	23,655,488	17,933

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Industrial Park	127	—

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
Industrial Park	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.00	4.00	18.0

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	14.7	annual days of extreme heat
Extreme Precipitation	5.15	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	10.5	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 (Radke et al., 2017, CEC-500-2017-008), and consider inundation location and depth for the San Francisco Bay, the Sacramento-San Joaquin River Delta and California coast resulting different increments of sea level rise coupled with extreme storm events. Users may select from four scenarios to view the range in potential inundation depth for the grid cell. The four scenarios are: No rise, 0.5 meter, 1.0 meter, 1.41 meters
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	N/A	N/A	N/A	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	0	0	0	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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	N/A	N/A	N/A	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	1	1	2

Wildfire	1	1	1	2
Flooding	1	1	1	2
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	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 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	45.0
AQ-PM	20.6
AQ-DPM	79.0
Drinking Water	24.2
Lead Risk Housing	29.9
Pesticides	0.00
Toxic Releases	17.5
Traffic	44.6
Effect Indicators	—
CleanUp Sites	22.6
Groundwater	47.4

Haz Waste Facilities/Generators	80.8
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	14.9
Cardio-vascular	52.6
Low Birth Weights	10.6
Socioeconomic Factor Indicators	—
Education	59.3
Housing	29.2
Linguistic	13.3
Poverty	32.8
Unemployment	7.14

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	39.75362505
Employed	37.66200436
Median HI	49.13383806
Education	—
Bachelor's or higher	40.07442577
High school enrollment	100
Preschool enrollment	86.2055691
Transportation	—
Auto Access	87.47593995
Active commuting	4.837674836

Social	—
2-parent households	47.74797896
Voting	75.45232901
Neighborhood	—
Alcohol availability	90.08084178
Park access	24.79147953
Retail density	74.14346208
Supermarket access	20.28743744
Tree canopy	9.200564609
Housing	—
Homeownership	89.16976774
Housing habitability	69.63941999
Low-inc homeowner severe housing cost burden	26.94726036
Low-inc renter severe housing cost burden	34.51815732
Uncrowded housing	79.21211344
Health Outcomes	—
Insured adults	43.11561658
Arthritis	31.2
Asthma ER Admissions	84.0
High Blood Pressure	71.3
Cancer (excluding skin)	29.3
Asthma	55.1
Coronary Heart Disease	47.4
Chronic Obstructive Pulmonary Disease	40.0
Diagnosed Diabetes	55.5
Life Expectancy at Birth	19.7
Cognitively Disabled	21.0
Physically Disabled	24.6

Heart Attack ER Admissions	72.6
Mental Health Not Good	51.7
Chronic Kidney Disease	45.1
Obesity	53.5
Pedestrian Injuries	19.6
Physical Health Not Good	56.1
Stroke	58.2
Health Risk Behaviors	—
Binge Drinking	10.1
Current Smoker	51.8
No Leisure Time for Physical Activity	57.5
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	68.4
Elderly	51.6
English Speaking	52.4
Foreign-born	21.0
Outdoor Workers	45.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	64.9
Traffic Density	72.8
Traffic Access	23.0
Other Indices	—
Hardship	39.9
Other Decision Support	—
2016 Voting	76.8

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	15.0
Healthy Places Index Score for Project Location (b)	54.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
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
Operations: Vehicle Data	Trip generation based on counts of vehicles entering and exiting the project site taken by traffic engineer (LLG 2023).

Appendix B

Fleet Mix Calculations

San Marcos Industrial Park Fleet Mix Calculations

Type of High-Cube Warehouse	Weighted Average for Daily Trips per 1,000 GSF[1]			% of ADT		
	Cars	All Trucks	5+ Axle Trucks	Cars	2-4 Axle Trucks	5+ Axle Trucks
Transload & Short-Term	1.000	0.454	0.233	68.78%	15.20%	16.02%

Trip Generation	ADT
Project Trip Generation[2]	664
Passenger Vehicles[3]	457
Trucks[3]	207

Notes:
1. From *High-Cube Warehouse Vehicle Trip Generation Analysis*, prepared for SCAQMD by ITE (October 2016).
2. Project trip generation from *San Marcos Industrial Park Local Transportation Analysis* (LLG February 8, 2024).
3. Passenger vehicle trips assigned to project office space.
4. Truck trips assigned to project industrial space.

Project Passenger Vehicles Fleet Mix	CalEEMod Default	Project Office
LDA	50.4573%	62.1253%
LDT1	4.6552%	5.7317%
LDT2	22.6811%	27.9260%
MCY	2.7172%	3.3455%
MH	0.4945%	0.6089%
OBUS	0.0711%	0.0876%
SBUS	0.0960%	0.1182%
UBUS	0.0461%	0.0567%
Total	**81.2186%**	**100.0000%**

Project Trucks Fleet Mix	CalEEMod Default	Project Industrial
2-4 Axle Trucks		
MDV	13.6517%	38.6040%
LHD1	2.8328%	8.0106%
LHD2	0.7298%	2.0638%
Subtotal	17.2144%	48.6784%
5+ Axle Trucks		
HHD	0.6802%	22.2767%
MHD	0.8868%	29.0448%
Subtotal	1.5670%	51.3216%
Total	**18.7814%**	**100.0000%**

Appendix C

Solar Calculations

NREL
NATIONAL RENEWABLE ENERGY LABORATORY

Caution: Photovoltaic system performance predictions calculated by PVWatts® include many inherent assumptions and uncertainties and do not reflect variations between PV technologies nor site-specific characteristics except as represented by PVWatts® inputs. For example, PV modules with better performance are not differentiated within PVWatts® from lesser performing modules. Both NREL and private companies provide more sophisticated PV modeling tools (such as the System Advisor Model at //sam.nrel.gov) that allow for more precise and complex modeling of PV systems.

The expected range is based on 30 years of actual weather data at the given location and is intended to provide an indication of the variation you might see. For more information, please refer to this NREL report: The Error Report.

Disclaimer: The PVWatts® Model ("Model") is provided by the National Renewable Energy Laboratory ("NREL"), which is operated by the Alliance for Sustainable Energy, LLC ("Alliance") for the U.S. Department Of Energy ("DOE") and may be used for any purpose whatsoever.

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The energy output range is based on analysis of 30 years of historical weather data, and is intended to provide an indication of the possible interannual variability in generation for a Fixed (open rack) PV system at this location.

RESULTS

458,802 kWh/Year*

System output may range from 441,001 to 461,693 kWh per year near this location.

Month	Solar Radiation (kWh / m^2 / day)	AC Energy (kWh)
January	5.10	33,466
February	5.52	32,376
March	6.18	39,454
April	6.50	39,917
May	6.63	41,245
June	7.06	42,093
July	7.18	44,107
August	7.26	44,114
September	6.65	39,679
October	6.16	38,825
November	5.31	33,042
December	4.58	30,484
Annual	**6.18**	**458,802**

Location and Station Identification

Requested Location	528 East Mission Road, San Marcos, CA
Weather Data Source	Lat, Lng: 33.13, -117.14 1.3 mi
Latitude	33.13° N
Longitude	117.14° W

PV System Specifications

DC System Size	265.56 kW
Module Type	Standard
Array Type	Fixed (open rack)
System Losses	14.08%
Array Tilt	28°
Array Azimuth	180°
DC to AC Size Ratio	1.2
Inverter Efficiency	96%
Ground Coverage Ratio	0.4
Albedo	*From weather file*
Bifacial	No (0)
Monthly Irradiance Loss	Jan 0%, Feb 0%, Mar 0%, Apr 0%, May 0%, June 0%; July 0%, Aug 0%, Sept 0%, Oct 0%, Nov 0%, Dec 0%

Performance Metrics

DC Capacity Factor	**19.7%**

Appendix D

HRA Modeling Input/Output

Mission San Marcos Industrial Park Project
Residential Cancer Risk Results

*HARP - HRACalc v22118 5/1/2025 1:43:59 PM - Cancer Risk

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO
2501	ALL	R1	485939.79	3667611.26	1.08E-06	30YrCancerDerived_InhSoilDermMMilk
2502	ALL	R2	485918.91	3667602.23	1.33E-06	30YrCancerDerived_InhSoilDermMMilk
2503	ALL	R3	485906.71	3667602.11	1.37E-06	30YrCancerDerived_InhSoilDermMMilk
2504	ALL	R4/MEIR	485881.61	3667590.15	1.58E-06	30YrCancerDerived_InhSoilDermMMilk
2505	ALL	R5	485848.88	3667579.59	1.00E-06	30YrCancerDerived_InhSoilDermMMilk
2506	ALL	R6	485824.01	3667581.12	7.28E-07	30YrCancerDerived_InhSoilDermMMilk
2507	ALL	R7	485652.04	3667535.95	4.94E-07	30YrCancerDerived_InhSoilDermMMilk
2508	ALL	R8	485603.83	3667461.47	4.95E-07	30YrCancerDerived_InhSoilDermMMilk
2509	ALL	R9	485635.74	3667365.75	4.42E-07	30YrCancerDerived_InhSoilDermMMilk
2550	ALL	PMI	485958.12	3667491.27	3.40E-06	30YrCancerDerived_InhSoilDermMMilk

PROJECT TITLE:

Mission San Marcos Industrial Park Project
Residential Cancer Risk

PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL ug/m^3

Max: 26.92 [ug/m^3] at (485870.00, 3667460.00)

1.00 2.00 5.00 10.00

COMMENTS:	SOURCES:	COMPANY NAME:	
Risk in chances per million.	**7**		
	RECEPTORS: **2605**	MODELER:	
	OUTPUT TYPE:	SCALE: 1:7,484 0 0.2 km	
	MAX:	DATE: **5/5/2025**	PROJECT NO.:

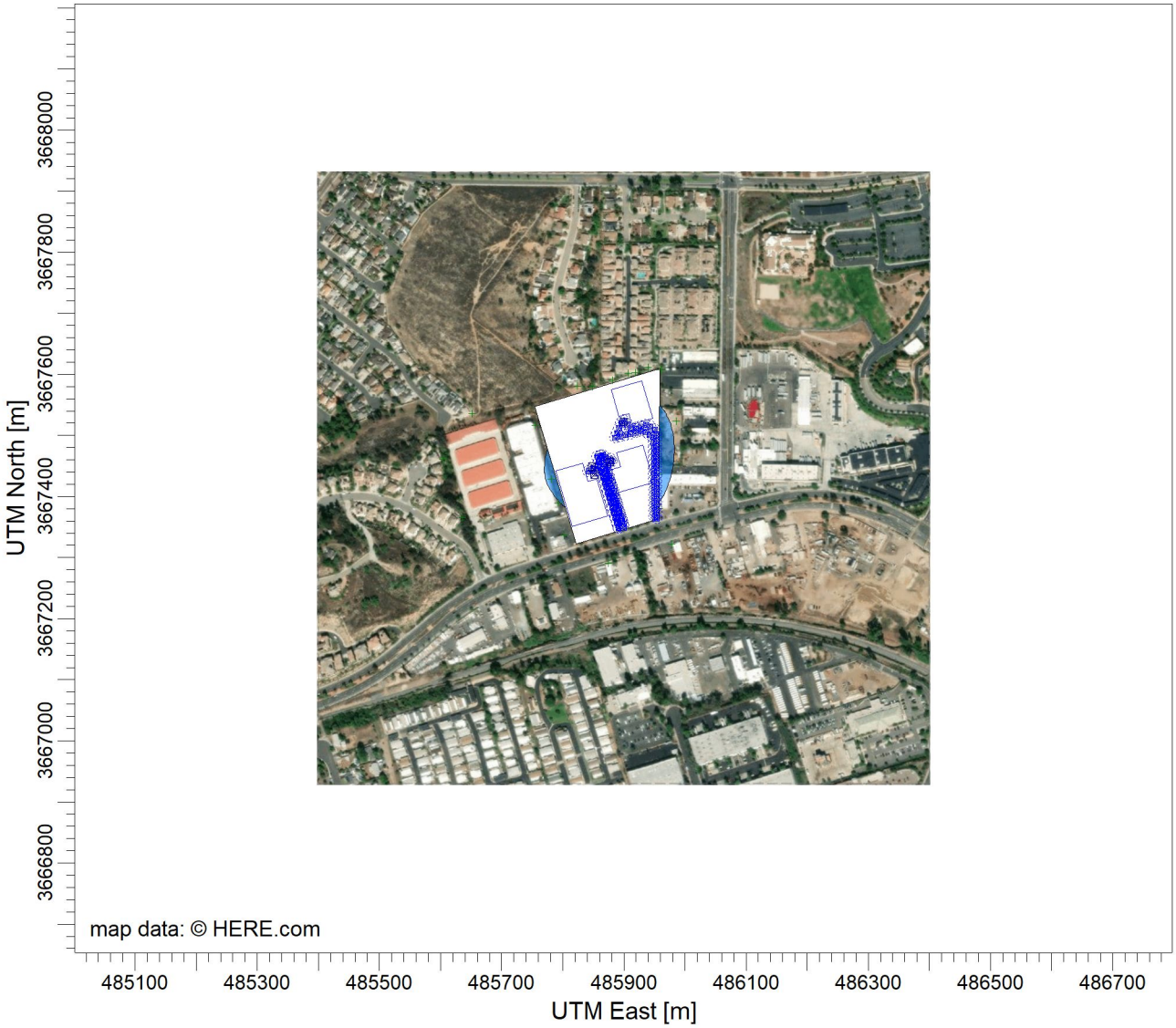
Mission San Marcos Industrial Park Project
Residential Non-Cancer Chronic Risk Results

*HARP - HRACalc v22118 5/1/2025 1:48:51 PM - Chronic Risk

REC	GRP	NETID	X	Y	SCENARIO	MAXHI
2501	ALL	R1	485939.79	3667611.26	NonCancerChronicDerived_InhSoilDermMMilk	2.45E-04
2502	ALL	R2	485918.91	3667602.23	NonCancerChronicDerived_InhSoilDermMMilk	3.00E-04
2503	ALL	R3	485906.71	3667602.11	NonCancerChronicDerived_InhSoilDermMMilk	3.09E-04
2504	ALL	R4/MEIR	485881.61	3667590.15	NonCancerChronicDerived_InhSoilDermMMilk	3.58E-04
2505	ALL	R5	485848.88	3667579.59	NonCancerChronicDerived_InhSoilDermMMilk	2.27E-04
2506	ALL	R6	485824.01	3667581.12	NonCancerChronicDerived_InhSoilDermMMilk	1.65E-04
2507	ALL	R7	485652.04	3667535.95	NonCancerChronicDerived_InhSoilDermMMilk	1.12E-04
2508	ALL	R8	485603.83	3667461.47	NonCancerChronicDerived_InhSoilDermMMilk	1.12E-04
2509	ALL	R9	485635.74	3667365.75	NonCancerChronicDerived_InhSoilDermMMilk	1.00E-04
2550	ALL	PMI	485958.12	3667491.27	NonCancerChronicDerived_InhSoilDermMMilk	7.68E-04

PROJECT TITLE:

Mission San Marcos Industrial Park Project
Residential Non-Cancer ChronicRisk



PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL ug/m^3

Max: 6.1E-03 [ug/m^3] at (485870.00, 3667460.00)

5.0E-04 1.0E-03 6.0E-03

COMMENTS:	SOURCES:	COMPANY NAME:	
Risk in Hazard Index.	**7**		
	RECEPTORS: **2605**	MODELER:	
	OUTPUT TYPE:	SCALE: 1:11,298 0 0.4 km	
	MAX:	DATE: **5/5/2025**	PROJECT NO.:

Mission San Marcos Industrial Park Project
Daycare/Preschool Cancer Risk Results

*HARP - HRACalc v22118 5/1/2025 2:00:32 PM - Cancer Risk

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO
2510	ALL	S1	485960.93	3667607.01	3.95E-07	6YrCancerDerived_InhSoilDerm

PROJECT TITLE:

Mission San Marcos Industrial Park Project
Daycare/Preschool Cancer Risk

PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL

ug/m^3

Max: 10.4 [ug/m^3] at (485870.00, 3667460.00)

1.0 2.0 10.0

COMMENTS:	SOURCES:	COMPANY NAME:	
Risk in chances per million.	**7**		
	RECEPTORS: **2605**	MODELER:	
	OUTPUT TYPE:	SCALE: 1:7,294 0 0.2 km	
	MAX:	DATE: **5/5/2025**	PROJECT NO.:

Mission San Marcos Industrial Park Project
Daycare/Preschool Non-Cancer Chronic Risk Results

*HARP - HRACalc v22118 5/1/2025 2:05:04 PM - Chronic Risk

REC	GRP	NETID	X	Y	SCENARIO	MAXHI
2510	ALL	S1	485960.93	3667607.01	NonCancerChronicDerived_InhSoilDerm	2.32E-04

Mission San Marcos Industrial Park Project
Off-Site Worker Cancer Risk Results

*HARP - HRACalc v22118 5/1/2025 1:53:58 PM - Cancer Risk

REC	GRP	NETID	X	Y	RISK_SUM	SCENARIO
2511	ALL	C1	485957.79	3667381.18	1.38E-07	25YrCancerDerived_InhSoilDerm
2512	ALL	C2/MEIW	485958.18	3667436.33	2.06E-07	25YrCancerDerived_InhSoilDerm
2513	ALL	C3	485985.45	3667523.53	1.29E-07	25YrCancerDerived_InhSoilDerm
2514	ALL	C4	485755.3	3667517.01	8.14E-08	25YrCancerDerived_InhSoilDerm
2515	ALL	C5	485781	3667428.2	1.82E-07	25YrCancerDerived_InhSoilDerm
2516	ALL	C6	485792.55	3667388.91	1.46E-07	25YrCancerDerived_InhSoilDerm
2517	ALL	C7	485802.4	3667336.97	8.44E-08	25YrCancerDerived_InhSoilDerm
2518	ALL	C8	485874.39	3667290.87	6.22E-08	25YrCancerDerived_InhSoilDerm
2519	ALL	C9	485978.27	3667322.77	5.98E-08	25YrCancerDerived_InhSoilDerm
2550	ALL	PMI	485958.12	3667491.27	2.38E-07	25YrCancerDerived_InhSoilDerm

PROJECT TITLE:

Mission San Marcos Industrial Park Project
Off-Site Worker Cancer Risk

PLOT FILE OF PERIOD VALUES FOR SOURCE GROUP: ALL ug/m^3

Max: 1.88 [ug/m^3] at (485870.00, 3667460.00)

0.10 2.00

COMMENTS:	SOURCES:	COMPANY NAME:	
Risk in chances per million.	**7**		
	RECEPTORS: **2605**	MODELER:	
	OUTPUT TYPE:	SCALE: 1:7,294 0 0.2 km	
	MAX:	DATE: **5/5/2025**	PROJECT NO.:

Mission San Marcos Industrial Park Project
Off-Site Worker Non-Cancer Chronic Risk Results

*HARP - HRACalc v22118 5/1/2025 1:57:26 PM - Chronic Risk

REC	GRP	NETID	X	Y	SCENARIO	MAXHI
2511	ALL	C1	485957.79	3667381.18	NonCancerChronicDerived_InhSoilDerm	4.45E-04
2512	ALL	C2/MEIW	485958.18	3667436.33	NonCancerChronicDerived_InhSoilDerm	6.64E-04
2513	ALL	C3	485985.45	3667523.53	NonCancerChronicDerived_InhSoilDerm	4.17E-04
2514	ALL	C4	485755.3	3667517.01	NonCancerChronicDerived_InhSoilDerm	2.63E-04
2515	ALL	C5	485781	3667428.2	NonCancerChronicDerived_InhSoilDerm	5.87E-04
2516	ALL	C6	485792.55	3667388.91	NonCancerChronicDerived_InhSoilDerm	4.72E-04
2517	ALL	C7	485802.4	3667336.97	NonCancerChronicDerived_InhSoilDerm	2.73E-04
2518	ALL	C8	485874.39	3667290.87	NonCancerChronicDerived_InhSoilDerm	2.01E-04
2519	ALL	C9	485978.27	3667322.77	NonCancerChronicDerived_InhSoilDerm	1.93E-04
2550	ALL	PMI	485958.12	3667491.27	NonCancerChronicDerived_InhSoilDerm	7.68E-04

San Marcos Inusdtrial Park DPM Calculations

Truck Trips (ADT)	207.33

Trucks and TRUs by Building

	Warehouse SF	Loading Docks	Truck Entry	Truck Exit
Building 1	59,700	6	46.60	46.60
Building 2	38,610	5	30.14	30.14
Building 3	34,500	3	26.93	26.93
Total	**132,810**	**14**	**103.66**	**103.66**

Truck Circulation Emission Factor

Truck Type	Avg. Speed (mph)	% of Mix	Emission Factor (lb/mile)	Fleet Emissions (lb/mile)
MDV	10	38.6%	3.077013E-05	1.187849E-05
LHD1	10	8.0%	1.517456E-04	1.215580E-05
LHD2	10	2.1%	1.313429E-04	2.710679E-06
HHD	10	22.3%	5.337742E-05	1.189075E-05
MHD	10	29.0%	5.803595E-05	1.685645E-05
			Fleet Total	**2.674496E-05**

Truck Idling Emission Factor

Truck Type	Avg. Speed (mph)	% of Mix	Emission Factor (lb/mile)	Fleet Emissions (lb/min)
MDV	5	38.6%	3.80617E-05	1.22444E-06
LHD1	5	8.0%	1.85093E-04	1.23560E-06
LHD2	5	2.1%	1.57768E-04	2.71336E-07
HHD	5	22.3%	1.77456E-04	3.29429E-06
MHD	5	29.0%	9.85795E-05	2.38602E-06
			Fleet Total	**2.731377E-06**

Truck Dock Volume Sources

Source ID	Trucks/day	Idle Time (min)	Idling DPM/day (lb)	Idling DPM/yr (lb)
B1TI1	23.30	11	7.00031E-04	2.55511E-01
B1TI2	23.30	11	7.00031E-04	2.55511E-01
B2TI1	30.14	11	9.05467E-04	3.30496E-01
B3TI1	26.93	11	8.09081E-04	2.95315E-01
Total	**103.66**		**3.11461E-03**	**1.13683E+00**

Truck Circulation Line Volume Sources

Source ID	Trucks/day	Source Length (m)	Circulation DPM/day (lb)	Circulation DPM/yr (lb)
B1TC	46.60	290.6	2.25041E-04	8.21400E-02
B2TC	30.14	277.8	1.39131E-04	5.07828E-02
B3TC	26.93	443.7	1.98564E-04	7.24758E-02
Total	**103.66**		**5.62736E-04**	**2.05399E-01**

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: County
Region: San Diego
Calendar Year: 2027
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for VMT, tons/year for Emissions, mph for Speed

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Total VMT	PM10_RUNEX	lb/mile
San Diego	2027	HHDT	Aggregate	10	Diesel	5299032.6	0.141424341	5.33774E-05
San Diego	2027	LHDT1	Aggregate	10	Diesel	23051639	1.748991846	0.000151746
San Diego	2027	LHDT2	Aggregate	10	Diesel	9720494.1	0.638358927	0.000131343
San Diego	2027	MDV	Aggregate	10	Diesel	2217429.1	0.034115291	3.07701E-05
San Diego	2027	MHDT	Aggregate	10	Diesel	6919930.8	0.200802396	5.8036E-05
San Diego	2027	HHDT	Aggregate	5	Diesel	730795	0.064842118	0.000177456
San Diego	2027	LHDT1	Aggregate	5	Diesel	6931873.5	0.641521536	0.000185093
San Diego	2027	LHDT2	Aggregate	5	Diesel	2923056.2	0.230581872	0.000157768
San Diego	2027	MDV	Aggregate	5	Diesel	1260955.6	0.023997056	3.80617E-05
San Diego	2027	MHDT	Aggregate	5	Diesel	932493.52	0.045962387	9.85795E-05

San Marcos Industrial Park Truck Trip Calculations

Type of High-Cube Warehouse	Weighted Average for Daily Trips per 1,000 GSF[1]			% of ADT		
	Cars	All Trucks	5+ Axle Trucks	Cars	2-4 Axle Trucks	5+ Axle Trucks
Transload & Short-Term Storage	1.000	0.454	0.233	68.78%	15.20%	16.02%

Trip Generation	ADT
Project Trip Generation[2]	664
Passenger Vehicles	456.67
Trucks[3]	207.33

Project Trucks Fleet Mix	CalEEMod Default	Project Industrial	ADT
2-4 Axle Trucks			
MDV	13.6517%	38.6040%	80.04
LHD1	2.8328%	8.0106%	16.61
LHD2	0.7298%	2.0638%	4.28
Subtotal	17.2144%	48.6784%	100.92
5+ Axle Trucks			
HHD	0.6802%	22.2767%	46.19
MHD	0.8868%	29.0448%	60.22
Subtotal	1.5670%	51.3216%	106.40
Total	18.7814%	100.0000%	207.33

Notes:

1. From *High-Cube Warehouse Vehicle Trip Generation Analysis*, prepared for SCAQMD by ITE (October 2016).
2. Project trip generation from *San Marcos Industrial Park Local Transportation Analysis* (LLG May 1, 2024).

Control Pathway

AERMOD

Dispersion Options

Titles

C:\Users\MartinR\Desktop\San Marcos Industrial HRA\San Marcos Ind Di

Dispersion Options

- [x] Regulatory Default
- [ ] Non-Default Options

Dispersion Coefficient

Urban

Population:
Name (Optional):
Roughness Length:

Output Type

- [x] Concentration
- [ ] Total Deposition (Dry & Wet)
- [ ] Dry Deposition
- [ ] Wet Deposition

Plume Depletion

- [ ] Dry Removal
- [ ] Wet Removal

Output Warnings

- [ ] No Output Warnings
- [ ] Non-fatal Warnings for Non-sequential Met Data

Pollutant / Averaging Time / Terrain Options

Pollutant Type

OTHER - DPM

Averaging Time Options

Hours

1	2	3	4	6	8	12	24
■	☐	☐	☐	☐	☐	☐	☐

- [ ] Month
- [x] Period
- [ ] Annual

Exponential Decay

Half Life of 4 hrs will be used

Option not available

Terrain Height Options

- [ ] Flat
- [x] Elevated

SO: Meters
RE: Meters
TG: Meters

Flagpole Receptors

- [x] Yes
- [ ] No

Default Height = 1.20 m

Control Pathway

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Optional Files

- [ ] Re-Start File
- [ ] Init File
- [ ] Multi-Year Analyses
- [ ] Event Input File
- [x] Error Listing File

Detailed Error Listing File

Filename: San Marcos Ind Dispersion.err

Source Pathway - Source Inputs

AERMOD

Volume Sources

Source Type	Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation (Optional)	Release Height [m]	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dim. [m]	Initial Vertical Dim. [m]
VOLUME	B1TI1	485847.66	3667449.03	185.54	3.60	1.00000	12.00	Surface-Based	2.79	1.86
		Building 1 Truck Idling 1								
VOLUME	B1TI2	485851.98	3667435.92	184.66	3.60	1.00000	12.00	Surface-Based	2.79	0.93
		Building 1 Truck Idling 2								
VOLUME	B2TI1	485877.20	3667456.60	185.43	3.60	1.00000	12.00	Surface-Based	2.79	0.93
		Building 2 Truck Idling 1								
VOLUME	B3TI1	485899.68	3667522.30	186.87	3.60	1.00000	12.00	Surface-Based	2.79	0.93
		Building 3 Truck Idling 1								

Source Pathway - Source Inputs

Line Volume Sources

Source Type: LINE VOLUME
Source: B1TC (Building 1 Truck Circulation)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
8.60	1.00000		485901.19	3667347.51	183.00	3.40
			485864.42	3667470.81	186.46	3.40
			485855.96	3667448.98	185.68	3.40
			485842.00	3667440.72	185.18	3.40
			485863.44	3667442.49	185.07	3.40
			485892.33	3667345.95	183.00	3.40

Source Type: LINE VOLUME
Source: B2TC (Building 2 Truck Circulation)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
8.60	1.00000		485892.61	3667345.57	183.00	3.40
			485856.01	3667467.58	185.82	3.40
			485883.23	3667459.37	185.04	3.40
			485869.62	3667448.81	185.45	3.40
			485900.83	3667348.85	183.00	3.40

Source Pathway - Source Inputs

AERMOD

Source Type: LINE VOLUME
Source: B3TC (Building 3 Truck Circulation)

Length of Side [m]	Emission Rate [g/ s]	Building Height [m]	X Coordinate for Points [m]	Y Coordinate for points [m]	Base Elevation [m]	Release Height [m]
8.60	1.00000		485950.34	3667362.69	183.95	0.00
			485949.16	3667495.74	185.06	0.00
			485931.80	3667508.41	186.06	0.00
			485890.33	3667497.14	186.03	0.00
			485886.04	3667495.97	186.05	0.00
			485898.01	3667525.77	186.90	0.00
			485913.73	3667510.05	186.11	0.00
			485939.31	3667517.56	186.03	0.00
			485952.68	3667507.71	185.75	0.00
			485953.62	3667363.63	183.94	0.00

Source Pathway - Source Inputs

AERMOD

Volume Sources Generated from Line Sources

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
B1TC	L0000001	485899.96	3667351.63	183.00	3.40	0.02941	8.60		4.00	3.16
	L0000002	485897.51	3667359.87	183.00	3.40	0.02941	8.60		4.00	3.16
	L0000003	485895.05	3667368.11	183.07	3.40	0.02941	8.60		4.00	3.16
	L0000004	485892.59	3667376.35	183.34	3.40	0.02941	8.60		4.00	3.16
	L0000005	485890.13	3667384.59	183.62	3.40	0.02941	8.60		4.00	3.16
	L0000006	485887.67	3667392.83	183.89	3.40	0.02941	8.60		4.00	3.16
	L0000007	485885.22	3667401.07	184.00	3.40	0.02941	8.60		4.00	3.16
	L0000008	485882.76	3667409.32	184.00	3.40	0.02941	8.60		4.00	3.16
	L0000009	485880.30	3667417.56	184.00	3.40	0.02941	8.60		4.00	3.16
	L0000010	485877.84	3667425.80	184.00	3.40	0.02941	8.60		4.00	3.16
	L0000011	485875.38	3667434.04	184.39	3.40	0.02941	8.60		4.00	3.16
	L0000012	485872.93	3667442.28	184.84	3.40	0.02941	8.60		4.00	3.16
	L0000013	485870.47	3667450.52	185.34	3.40	0.02941	8.60		4.00	3.16
	L0000014	485868.01	3667458.76	185.81	3.40	0.02941	8.60		4.00	3.16
	L0000015	485865.55	3667467.00	186.16	3.40	0.02941	8.60		4.00	3.16
	L0000016	485862.75	3667466.49	186.24	3.40	0.02941	8.60		4.00	3.16
	L0000017	485859.64	3667458.47	186.08	3.40	0.02941	8.60		4.00	3.16
	L0000018	485856.53	3667450.45	185.63	3.40	0.02941	8.60		4.00	3.16
	L0000019	485849.92	3667445.40	185.29	3.40	0.02941	8.60		4.00	3.16
	L0000020	485842.52	3667441.02	185.00	3.40	0.02941	8.60		4.00	3.16
	L0000021	485849.98	3667441.38	185.02	3.40	0.02941	8.60		4.00	3.16
	L0000022	485858.55	3667442.08	185.07	3.40	0.02941	8.60		4.00	3.16
	L0000023	485864.49	3667438.95	184.79	3.40	0.02941	8.60		4.00	3.16
	L0000024	485866.96	3667430.71	184.27	3.40	0.02941	8.60		4.00	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
B1TC	L0000025	485869.43	3667422.47	184.00	3.40	0.02941	8.60		4.00	3.16
	L0000026	485871.89	3667414.23	184.00	3.40	0.02941	8.60		4.00	3.16
	L0000027	485874.36	3667405.99	184.00	3.40	0.02941	8.60		4.00	3.16
	L0000028	485876.83	3667397.76	184.00	3.40	0.02941	8.60		4.00	3.16
	L0000029	485879.29	3667389.52	183.78	3.40	0.02941	8.60		4.00	3.16
	L0000030	485881.76	3667381.28	183.51	3.40	0.02941	8.60		4.00	3.16
	L0000031	485884.22	3667373.04	183.23	3.40	0.02941	8.60		4.00	3.16
	L0000032	485886.69	3667364.80	183.00	3.40	0.02941	8.60		4.00	3.16
	L0000033	485889.16	3667356.56	183.00	3.40	0.02941	8.60		4.00	3.16
	L0000034	485891.62	3667348.32	183.00	3.40	0.02941	8.60		4.00	3.16

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
B2TC	L0000035	485891.38	3667349.68	183.00	3.40	0.03125	8.60		4.00	3.16
	L0000036	485888.91	3667357.92	183.00	3.40	0.03125	8.60		4.00	3.16
	L0000037	485886.44	3667366.16	183.01	3.40	0.03125	8.60		4.00	3.16
	L0000038	485883.96	3667374.40	183.28	3.40	0.03125	8.60		4.00	3.16
	L0000039	485881.49	3667382.63	183.55	3.40	0.03125	8.60		4.00	3.16
	L0000040	485879.02	3667390.87	183.83	3.40	0.03125	8.60		4.00	3.16
	L0000041	485876.55	3667399.11	184.00	3.40	0.03125	8.60		4.00	3.16
	L0000042	485874.08	3667407.35	184.00	3.40	0.03125	8.60		4.00	3.16
	L0000043	485871.61	3667415.58	184.00	3.40	0.03125	8.60		4.00	3.16
	L0000044	485869.14	3667423.82	184.00	3.40	0.03125	8.60		4.00	3.16
	L0000045	485866.67	3667432.06	184.36	3.40	0.03125	8.60		4.00	3.16
	L0000046	485864.19	3667440.29	184.88	3.40	0.03125	8.60		4.00	3.16
	L0000047	485861.72	3667448.53	185.45	3.40	0.03125	8.60		4.00	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
B2TC	L0000048	485859.25	3667456.77	186.03	3.40	0.03125	8.60		4.00	3.16
	L0000049	485856.78	3667465.01	186.33	3.40	0.03125	8.60		4.00	3.16
	L0000050	485861.67	3667465.87	186.26	3.40	0.03125	8.60		4.00	3.16
	L0000051	485869.90	3667463.39	185.90	3.40	0.03125	8.60		4.00	3.16
	L0000052	485878.13	3667460.91	185.54	3.40	0.03125	8.60		4.00	3.16
	L0000053	485880.64	3667457.36	185.34	3.40	0.03125	8.60		4.00	3.16
	L0000054	485873.84	3667452.09	185.32	3.40	0.03125	8.60		4.00	3.16
	L0000055	485870.59	3667445.70	185.07	3.40	0.03125	8.60		4.00	3.16
	L0000056	485873.15	3667437.49	184.59	3.40	0.03125	8.60		4.00	3.16
	L0000057	485875.71	3667429.28	184.16	3.40	0.03125	8.60		4.00	3.16
	L0000058	485878.28	3667421.08	184.00	3.40	0.03125	8.60		4.00	3.16
	L0000059	485880.84	3667412.87	184.00	3.40	0.03125	8.60		4.00	3.16
	L0000060	485883.40	3667404.66	184.00	3.40	0.03125	8.60		4.00	3.16
	L0000061	485885.97	3667396.45	184.00	3.40	0.03125	8.60		4.00	3.16
	L0000062	485888.53	3667388.24	183.74	3.40	0.03125	8.60		4.00	3.16
	L0000063	485891.09	3667380.03	183.47	3.40	0.03125	8.60		4.00	3.16
	L0000064	485893.65	3667371.82	183.19	3.40	0.03125	8.60		4.00	3.16
	L0000065	485896.22	3667363.61	183.00	3.40	0.03125	8.60		4.00	3.16
	L0000066	485898.78	3667355.40	183.00	3.40	0.03125	8.60		4.00	3.16

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
B3TC	L0000067	485950.30	3667366.99	184.00	0.00	0.01923	8.60		4.00	3.16
	L0000068	485950.22	3667375.59	184.00	0.00	0.01923	8.60		4.00	3.16
	L0000069	485950.15	3667384.19	184.00	0.00	0.01923	8.60		4.00	3.16
	L0000070	485950.07	3667392.79	184.00	0.00	0.01923	8.60		4.00	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
B3TC	L0000071	485950.00	3667401.39	184.00	0.00	0.01923	8.60		4.00	3.16
	L0000072	485949.92	3667409.99	184.01	0.00	0.01923	8.60		4.00	3.16
	L0000073	485949.84	3667418.59	184.01	0.00	0.01923	8.60		4.00	3.16
	L0000074	485949.77	3667427.19	184.05	0.00	0.01923	8.60		4.00	3.16
	L0000075	485949.69	3667435.79	184.33	0.00	0.01923	8.60		4.00	3.16
	L0000076	485949.62	3667444.39	184.61	0.00	0.01923	8.60		4.00	3.16
	L0000077	485949.54	3667452.99	184.90	0.00	0.01923	8.60		4.00	3.16
	L0000078	485949.46	3667461.59	185.00	0.00	0.01923	8.60		4.00	3.16
	L0000079	485949.39	3667470.19	185.00	0.00	0.01923	8.60		4.00	3.16
	L0000080	485949.31	3667478.79	185.00	0.00	0.01923	8.60		4.00	3.16
	L0000081	485949.24	3667487.39	185.05	0.00	0.01923	8.60		4.00	3.16
	L0000082	485948.96	3667495.89	185.34	0.00	0.01923	8.60		4.00	3.16
	L0000083	485942.01	3667500.96	185.62	0.00	0.01923	8.60		4.00	3.16
	L0000084	485935.07	3667506.03	185.83	0.00	0.01923	8.60		4.00	3.16
	L0000085	485927.40	3667507.22	185.92	0.00	0.01923	8.60		4.00	3.16
	L0000086	485919.11	3667504.96	186.01	0.00	0.01923	8.60		4.00	3.16
	L0000087	485910.81	3667502.70	186.16	0.00	0.01923	8.60		4.00	3.16
	L0000088	485902.51	3667500.45	186.27	0.00	0.01923	8.60		4.00	3.16
	L0000089	485894.21	3667498.19	186.34	0.00	0.01923	8.60		4.00	3.16
	L0000090	485886.09	3667496.10	186.49	0.00	0.01923	8.60		4.00	3.16
	L0000091	485889.30	3667504.08	186.61	0.00	0.01923	8.60		4.00	3.16
	L0000092	485892.50	3667512.06	186.78	0.00	0.01923	8.60		4.00	3.16
	L0000093	485895.71	3667520.04	186.93	0.00	0.01923	8.60		4.00	3.16
	L0000094	485899.73	3667524.06	186.93	0.00	0.01923	8.60		4.00	3.16
	L0000095	485905.81	3667517.98	186.52	0.00	0.01923	8.60		4.00	3.16

Source Pathway - Source Inputs

AERMOD

Line Source ID	Volume Source ID	X Coordinate [m]	Y Coordinate [m]	Base Elevation [m]	Release Height [m[	Emission Rate [g/s]	Length of Side [m]	Building Height [m]	Initial Lateral Dimencion [m]	Initial Vertical Dimencion [m]
B3TC	L0000096	485911.89	3667511.90	186.22	0.00	0.01923	8.60		4.00	3.16
	L0000097	485919.48	3667511.74	186.00	0.00	0.01923	8.60		4.00	3.16
	L0000098	485927.73	3667514.16	185.98	0.00	0.01923	8.60		4.00	3.16
	L0000099	485935.98	3667516.59	186.01	0.00	0.01923	8.60		4.00	3.16
	L0000100	485943.44	3667514.51	185.96	0.00	0.01923	8.60		4.00	3.16
	L0000101	485950.37	3667509.41	185.76	0.00	0.01923	8.60		4.00	3.16
	L0000102	485952.72	3667501.98	185.48	0.00	0.01923	8.60		4.00	3.16
	L0000103	485952.78	3667493.38	185.22	0.00	0.01923	8.60		4.00	3.16
	L0000104	485952.83	3667484.78	185.00	0.00	0.01923	8.60		4.00	3.16
	L0000105	485952.89	3667476.18	185.00	0.00	0.01923	8.60		4.00	3.16
	L0000106	485952.94	3667467.58	185.00	0.00	0.01923	8.60		4.00	3.16
	L0000107	485953.00	3667458.98	185.00	0.00	0.01923	8.60		4.00	3.16
	L0000108	485953.06	3667450.38	184.84	0.00	0.01923	8.60		4.00	3.16
	L0000109	485953.11	3667441.79	184.58	0.00	0.01923	8.60		4.00	3.16
	L0000110	485953.17	3667433.19	184.33	0.00	0.01923	8.60		4.00	3.16
	L0000111	485953.22	3667424.59	184.12	0.00	0.01923	8.60		4.00	3.16
	L0000112	485953.28	3667415.99	184.08	0.00	0.01923	8.60		4.00	3.16
	L0000113	485953.34	3667407.39	184.05	0.00	0.01923	8.60		4.00	3.16
	L0000114	485953.39	3667398.79	184.01	0.00	0.01923	8.60		4.00	3.16
	L0000115	485953.45	3667390.19	184.00	0.00	0.01923	8.60		4.00	3.16
	L0000116	485953.50	3667381.59	184.00	0.00	0.01923	8.60		4.00	3.16
	L0000117	485953.56	3667372.99	184.00	0.00	0.01923	8.60		4.00	3.16
	L0000118	485953.62	3667364.39	183.95	0.00	0.01923	8.60		4.00	3.16

Receptor Pathway

Receptor Networks

Note: Terrain Elavations and Flagpole Heights for Network Grids are in Page RE2 - 1 (If applicable)
Generated Discrete Receptors for Multi-Tier (Risk) Grid and Receptor Locations for Fenceline Grid are in Page RE3 - 1 (If applicable)

Uniform Cartesian Grid

Receptor Network ID	Grid Origin X Coordinate [m]	Grid Origin Y Coordinate [m]	No. of X-Axis Receptors	No. of Y-Axis Receptors	Spacing for X-Axis [m]	Spacing for Y-Axis [m]
UCART1	485410.00	3666940.00	50	50	20.00	20.00

Discrete Receptors

Discrete Cartesian Receptors

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	485939.79	3667611.26		186.27	
2	485918.91	3667602.23		187.02	
3	485906.71	3667602.11		187.43	
4	485881.61	3667590.15		189.19	
5	485848.88	3667579.59		194.65	
6	485824.01	3667581.12		198.56	
7	485652.04	3667535.95		194.24	
8	485603.83	3667461.47		194.26	
9	485635.74	3667365.75		185.45	
10	485960.93	3667607.01		186.00	
11	485957.79	3667381.18		184.00	
12	485958.18	3667436.33		184.53	
13	485985.45	3667523.53		185.25	
14	485755.30	3667517.01		191.69	
15	485781.00	3667428.20		185.12	
16	485792.55	3667388.91		182.94	
17	485802.40	3667336.97		182.10	
18	485874.39	3667290.87		182.50	
19	485978.27	3667322.77		183.96	

Plant Boundary Receptors

Receptor Pathway

Cartesian Plant Boundary

Primary

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	485822.30	3667322.80	FENCEPRI	182.43	
2	485957.26	3667363.08	FENCEPRI	183.93	
3	485958.91	3667609.60	FENCEPRI	186.00	
4	485754.44	3667547.22	FENCEPRI	196.66	

Intermediate

Record Number	X-Coordinate [m]	Y-Coordinate [m]	Group Name (Optional)	Terrain Elevations	Flagpole Heights [m] (Optional)
1	485831.30	3667325.49	FENCEINT	182.65	
2	485840.29	3667328.17	FENCEINT	182.74	
3	485849.29	3667330.86	FENCEINT	182.83	
4	485858.29	3667333.54	FENCEINT	182.92	
5	485867.29	3667336.23	FENCEINT	183.00	
6	485876.28	3667338.91	FENCEINT	183.00	
7	485885.28	3667341.60	FENCEINT	183.00	
8	485894.28	3667344.28	FENCEINT	183.00	
9	485903.28	3667346.97	FENCEINT	183.00	
10	485912.27	3667349.65	FENCEINT	183.00	
11	485921.27	3667352.34	FENCEINT	183.03	
12	485930.27	3667355.02	FENCEINT	183.23	
13	485939.27	3667357.71	FENCEINT	183.48	
14	485948.26	3667360.39	FENCEINT	183.78	
15	485957.33	3667372.94	FENCEINT	184.00	
16	485957.39	3667382.80	FENCEINT	184.00	
17	485957.46	3667392.66	FENCEINT	184.00	
18	485957.52	3667402.52	FENCEINT	184.06	
19	485957.59	3667412.38	FENCEINT	184.15	
20	485957.66	3667422.24	FENCEINT	184.24	
21	485957.72	3667432.11	FENCEINT	184.42	
22	485957.79	3667441.97	FENCEINT	184.66	
23	485957.85	3667451.83	FENCEINT	184.90	
24	485957.92	3667461.69	FENCEINT	185.00	
25	485957.99	3667471.55	FENCEINT	185.00	
26	485958.05	3667481.41	FENCEINT	185.00	
27	485958.12	3667491.27	FENCEINT	185.12	
28	485958.18	3667501.13	FENCEINT	185.36	
29	485958.25	3667510.99	FENCEINT	185.59	

Receptor Pathway

30	485958.32	3667520.85	FENCEINT	185.75	
31	485958.38	3667530.71	FENCEINT	185.85	
32	485958.45	3667540.57	FENCEINT	185.95	
33	485958.51	3667550.44	FENCEINT	186.00	
34	485958.58	3667560.30	FENCEINT	186.00	
35	485958.65	3667570.16	FENCEINT	186.00	
36	485958.71	3667580.02	FENCEINT	186.00	
37	485958.78	3667589.88	FENCEINT	186.00	
38	485958.84	3667599.74	FENCEINT	186.00	
39	485949.62	3667606.76	FENCEINT	186.00	
40	485940.32	3667603.93	FENCEINT	186.31	
41	485931.03	3667601.09	FENCEINT	186.62	
42	485921.73	3667598.26	FENCEINT	186.93	
43	485912.44	3667595.42	FENCEINT	187.23	
44	485903.15	3667592.59	FENCEINT	187.54	
45	485893.85	3667589.75	FENCEINT	187.85	
46	485884.56	3667586.92	FENCEINT	188.76	
47	485875.26	3667584.08	FENCEINT	190.24	
48	485865.97	3667581.25	FENCEINT	191.78	
49	485856.68	3667578.41	FENCEINT	193.39	
50	485847.38	3667575.57	FENCEINT	194.98	
51	485838.09	3667572.74	FENCEINT	196.27	
52	485828.79	3667569.90	FENCEINT	197.48	
53	485819.50	3667567.07	FENCEINT	198.34	
54	485810.20	3667564.23	FENCEINT	199.14	
55	485800.91	3667561.40	FENCEINT	199.89	
56	485791.62	3667558.56	FENCEINT	199.41	
57	485782.32	3667555.73	FENCEINT	198.72	
58	485773.03	3667552.89	FENCEINT	198.04	
59	485763.73	3667550.06	FENCEINT	197.35	
60	485757.27	3667537.87	FENCEINT	195.24	
61	485760.10	3667528.52	FENCEINT	193.77	
62	485762.92	3667519.17	FENCEINT	192.31	
63	485765.75	3667509.82	FENCEINT	191.08	
64	485768.58	3667500.47	FENCEINT	189.91	
65	485771.41	3667491.12	FENCEINT	188.69	
66	485774.23	3667481.76	FENCEINT	187.84	
67	485777.06	3667472.41	FENCEINT	187.43	
68	485779.89	3667463.06	FENCEINT	186.97	
69	485782.72	3667453.71	FENCEINT	186.44	
70	485785.54	3667444.36	FENCEINT	185.90	

71	485788.37	3667435.01	FENCEINT	185.41	
72	485791.20	3667425.66	FENCEINT	184.98	
73	485794.03	3667416.31	FENCEINT	184.41	
74	485796.85	3667406.96	FENCEINT	183.79	
75	485799.68	3667397.61	FENCEINT	183.11	
76	485802.51	3667388.26	FENCEINT	182.77	
77	485805.34	3667378.91	FENCEINT	182.54	
78	485808.16	3667369.55	FENCEINT	182.37	
79	485810.99	3667360.20	FENCEINT	182.38	
80	485813.82	3667350.85	FENCEINT	182.48	
81	485816.65	3667341.50	FENCEINT	182.57	
82	485819.47	3667332.15	FENCEINT	182.58	

Receptor Groups

Record Number	Group ID	Group Description
1	FENCEPRI	Cartesian plant boundary Primary Receptors
2	FENCEINT	Cartesian plant boundary Intermediate Receptors
3	UCART1	Receptors generated from Uniform Cartesian Grid

Meteorology Pathway

AERMOD

Met Input Data

Surface Met Data

Filename: ESC_2010_2012_sigma_v19191.SFC
Format Type: Default AERMET format

Profile Met Data

Filename: ESC_2010_2012_sigma_v19191.PFL
Format Type: Default AERMET format

Wind Speed

☐ Wind Speeds are Vector Mean (Not Scalar Means)

Wind Direction

Rotation Adjustment [deg]:

Potential Temperature Profile

Base Elevation above MSL (for Primary Met Tower): 660.00 [m]

Meteorological Station Data

Stations	Station No.	Year	X Coordinate [m]	Y Coordinate [m]	Station Name
Surface		2010			
Upper Air		2010			
On-Site		2010			

Data Period

Data Period to Process

Start Date: 1/1/2010 Start Hour: 1 End Date: 12/31/2012 End Hour: 24

Wind Speed Categories

Stability Category	Wind Speed [m/s]	Stability Category	Wind Speed [m/s]
A	1.54	D	8.23
B	3.09	E	10.8
C	5.14	F	No Upper Bound

Output Pathway

AERMOD

Tabular Printed Outputs

Short Term Averaging Period	RECTABLE Highest Values Table										MAXTABLE Maximum Values Table	DAYTABLE Daily Values Table
	1st	2nd	3rd	4th	5th	6th	7th	8th	9th	10th		
1	■	☐	☐	☐	☐	☐	☐	☐	☐	☐		No

Contour Plot Files (PLOTFILE)

Path for PLOTFILES: San Marcos Ind Dispersion.AD

Averaging Period	Source Group ID	High Value	File Name
1	ALL	1st	01H1GALL.PLT
Period	ALL	N/A	PE00GALL.PLT

HARP Project Summary Report 5/5/2025

PROJECT INFORMATION
HARP Version: 22118
Project Name: SAN MARCOS IND RISK
HARP Database: NA

EMISSION INVENTORY
No. of Pollutants:7
No. of Background Pollutants:0

Emissions

ScrID	D		PolID	PolAbbrev	Multi	Annual Ems (lbs/yr)	MaxHr Ems (lbs/hr)	MWAF
B1TC	0	0	9901	DieselExhPM	1	0.082139987	0	1
B2TC	0	0	9901	DieselExhPM	1	0.050782811	0	1
B3TC	0	0	9901	DieselExhPM	1	0.072475833	0	1
B1TI1	0	0	9901	DieselExhPM	1	0.255511365	0	1
B1TI2	0	0	9901	DieselExhPM	1	0.255511365	0	1
B2TI1	0	0	9901	DieselExhPM	1	0.330495604	0	1
B3TI1	0	0	9901	DieselExhPM	1	0.295314643	0	1

Background

PolID	(ug/m^3)	MWAF

Ground level concentration files (\glc\)

9901MAXHR.txt
9901PER.txt

POLLUTANT HEALTH INFORMATION
Health Database: C:\HARP2\ b
Health Table Version: HEALTH25003
Official: True

PolID	PolAbbrev	InhCancer	OralCancer	AcuteREL	InhChronicREL	OralChronicREL	InhChronic8HRREL
9901	DieselExhPM	1.1			5		

Appendix E

Energy Use Calculator

Mission San Marcos Industrial Park Project
Construction Fuel Energy Use

Off-Road Construction Equipment Energy Use (Diesel)

Phase/Activity	Equipment	Fuel	HP	Load Factor	Equipment Count	Hours/Day	Work Days	Gallons /HP-Hr	Gallons /Hour	Gallons /Day	Total Gallons	Total MMBtu
Demolition	Concrete/Industrial Saws	Diesel	33	0.73	1	8.0	88	0.0419041	1.00947	8.076	710.7	99
	Rubber-Tired Dozers	Diesel	367	0.4	2	8.0	88	0.0453607	6.65895	106.543	9,375.8	1,303
	Excavators	Diesel	36	0.38	3	8.0	88	0.0560979	0.76742	18.418	1,620.8	225
	Water Truck	Diesel	376	0.38	1	4.0	88	0.0503257	7.19053	28.762	2,531.1	352
										Subtotal	**14,238.3**	**1,979**
Site Preparation	Tractor/Loader/Backhoe	Diesel	84	0.37	4	8.0	20	0.0564883	1.75566	56.181	1,123.6	156
	Rubber-Tired Dozers	Diesel	367	0.4	3	8.0	20	0.0453607	6.65895	159.815	3,196.3	444
	Water Truck	Diesel	376	0.38	1	4.0	20	0.0503257	7.19053	28.762	575.2	80
										Subtotal	**4,895.2**	**680**
Grading	Graders	Diesel	148	0.41	1	8.0	44	0.0603078	3.65948	29.276	1,288.1	179
	Rubber-Tired Dozers	Diesel	367	0.4	3	8.0	44	0.0453607	6.65895	159.815	7,031.9	977
	Tractor/Loader/Backhoes	Diesel	84	0.37	1	8.0	44	0.0564883	1.75566	14.045	618.0	86
	Water Truck	Diesel	376	0.38	1	4.0	44	0.0503257	7.19053	28.762	1,265.5	176
										Subtotal	**10,203.5**	**1,418**
Building Construction	Cranes	Diesel	367	0.29	1	7.0	109	0.0515293	5.48427	38.390	4,184.5	582
	Forklifts	Diesel	82	0.2	3	8.0	109	0.0573234	0.94010	22.562	2,459.3	342
	Tractor/Loader/Backhoes	Diesel	84	0.37	3	7.0	109	0.0564883	1.75566	36.869	4,018.7	559
	Generator Sets	Diesel	14	0.74	1	8.0	109	0.0177766	0.18417	1.473	160.6	22
	Welders	Diesel	46	0.45	1	8.0	109	0.0258137	0.53434	4.275	465.9	65
										Subtotal	**11,289.0**	**1,569**
Paving	Pavers	Diesel	81	0.42	2	8.0	20	0.0565364	1.92337	30.774	615.5	86
	Rollers	Diesel	80	0.38	2	8.0	20	0.0580283	1.76406	28.225	564.5	78
	Paving Equipment	Diesel	89	0.36	2	8.0	20	0.0595865	1.90915	30.546	610.9	85
										Subtotal	**1,790.9**	**249**
Architectural Coating	Air Compressor	Diesel	37	0.48	1	6.0	43	0.0177766	0.31571	1.894	81.5	11
										Subtotal	**81.5**	**11**
										CONSTRUCTION OFF-ROAD TOTAL DIESEL	**42,498.4**	**5,907**

On-Road Construction Energy Use

Phase	Trip Type (Fleet Mix)	Trips/Day (1-way)	Distance (miles)		Work Days	Total VMT	gallons diesel/VMT		Total diesel gallons	gallons gas/VMT	Total gasoline gallons	Total MMBtu
Demolition	Worker (LDA, LDT1, LDT2)	17.5	11.97		88	18,434	0.0002180		4.02	0.03108250	573.0	72
	Hauling (HHDT)	20.7	20		88	36,432	0.1414453		5,153.1	0.00000026	0.0	716
Site Preparation	Worker (LDA, LDT1, LDT2)	20	11.97		20	4,788	0.0002180		1.0	0.03108250	148.8	19
	Hauling (HHDT)	2	20		20	40	0.1414453		5.7	0.00000026	0.0	1
Grading	Worker (LDA, LDT1, LDT2)	17.5	11.97		44	9,217	0.0002180		2.0	0.03108250	286.5	36
	Hauling (HHDT)	9.41	20		44	188	0.1414453		26.6	0.14144526	26.6	7
Building Construction	Worker (LDA, LDT1, LDT2)	60.26	11.97		109	78,623	0.0002180		17.1	0.03108250	2443.8	305
	Vendor (HHDT, MHDT)	24.06	7.63		109	20,010	0.1157500		2,316.2	0.01315200	263.2	355
Paving	Worker (LDA, LDT1, LDT2)	15	11.97		20	3,591	0.0002180		0.8	0.03108250	111.6	14
	Hauling (HHDT)	11.3	20		20	226	0.1414453		32.0	0.00000026	0.0	4
Architectural Coating	Worker (LDA, LDT1, LDT2)	12.05	11.97		43	6,202	0.0002180		1.4	0.03108250	192.8	24
				Project Construction On-Road Total		**177,751**			**7,559.9**		**4,046.3**	**1,553**

Notes:
1. Off-road equipment types, horsepower, count and hours from project model runs CalEEMod Version 2022.1.
2. Off-road fuel consumption factors from CARB Off-Road Web Query Emissions Inventory.
3. On-road trips and trip distances from project model runs CalEEMod Version 2022.1.
3. On-road fuel consumption factors from CARB EMFAC2021 Emissions Web Database.
4. 1 Gallon of diesel = 0.139 MMBtu; 1 gallon of gasoline = 0.124 MMBtu.

Project Construction Energy By Year

Year/Activity	Diesel (gallons)	Gasoline (gallons)	Total (MMBtu)
2025			
Demolition	**14,547**	**430**	**2,075**
2026			
Demolition	4,849	143	692
Site Preparation	4,902	149	700
Grading	10,232	313	1,461
Building Construction	13,622	2,707	2,229
Paving	1,824	112	267
Architectural Coating	83	193	35
2025 Total	**35,512**	**3,617**	**5,385**

Mission San Marcos Industrial Park Project
Annual Operational Energy Use

Employee Fleet Mix

LDA	LDT1	LDT2	MCY	MH	OBUS	SBUS	UBUS
62.1253%	5.7317%	27.9260%	3.3455%	0.6089%	0.0876%	0.1182%	0.0567%

Truck Fleet Mix

MDV	LHD1	LDD2	MHD	HHD
38.6040%	8.0106%	2.0638%	22.2767%	29.0448%

VMT/Year

Category	VMT (miles)
Employee	1,351,578
Trucks	3,022,166

Annual Transportation Fuel Use

Vehicle Category and Fuel	VMT (miles)	Gasoline (gal)	Diesel (gal)	Natural Gas (gal)	Electricity (kWh)	Total MMBtu
LDA	839,672.2	25,159.1	47.6	0.0	31,141.5	3,232.6
LDT1	77,468.9	3,162.2	0.3	0.0	215.2	392.9
LDT2	377,442.3	9,595.6	45.7	0.0	2,191.6	1,203.7
MCY	45,217.1	1,149.5	0.0	0.0	0.0	142.5
MH	8,229.5	1,266.0	281.7	0.0	0.0	196.1
OBUS	1,183.6	119.5	74.2	8.0	18.6	26.3
SBUS	1,597.9	40.6	40.6	2.3	37.1	11.1
UBUS	766.5	8.5	0.0	112.8	124.1	17.2
MDV	1,166,675.5	55,948.7	762.9	0.0	10,337.5	7,079.0
LDH1	242,094.9	13,397.4	6,076.2	0.0	4,772.2	2,522.2
LHD2	62,372.0	2,102.2	3,063.3	0.0	1,162.2	690.4
MHD	673,240.3	28,034.0	59,024.8	1,330.5	20,938.6	11,937.0
HHD	877,783.2	53.0	134,642.1	6,711.3	25,934.5	19,743.2
	Totals	**140,036**	**204,059**	**8,165**	**96,873**	**47,194.2**

Direct Electricity Use

kWh	MMBtu
3,210,095	10,953.3

Water and Wastewater Energy Use

Indoor (Mgal)	Outdoor (Mgal)	Supply (kWh/Mgal)	Treat Water (kWh/Mgal)	Distribute (kWh/Mgal)	Treat Wastewater	kWh	MMBtu
33.2006	0.9755	3,044	725	1,537	1,501	231,172	788.8

Project Total

Energy Type	Quantity	MMBtu
Gasoline (Gallons)	140,036	17,364.5
Diesel (Gallons)	204,059	28,364.3
Natural Gas (MMBTU)	1,135	1,134.9
Electricity (kWh)	3,538,141	12,072.6
Total		**58,936.3**

Notes:
1. Fleet mix as calculated for CalEEMod 2022.1.
2. VMT, water, and building electricity use from CalEEmod 2022.1.
3. Water/wastewater treatment and delivery energy intensity factors from CalEEMod 2022.1 defaults for San Diego County in 2027.
4. Project direct electricity use includes a 458,802 kWh per year reduction from project solar panels.
5. 1 Gallon of diesel = 0.139 MMBtu; 1 gallon of gasoline = 0.124 MMBtu; 1 gallon of natural gas = 0.139 MMBtu; 1 kWh = 0.00341214 MMBtu.

OFFROAD Output

Model Output: Off-Road Web Query (v1.1.0) Emissions Inventory
Region Type: County
Region: San Diego
Calendar Year: 2025
Scenario: All Adopted Rules - Exhaust
Vehicle Classification: Off-Road Web Query Equipment Types
Units: tons/day for Emissions, gallons/year for Fuel, hours/year for Activity, Horsepower-hours/year for Horsepower-hours

Region	Calendar Year	Vehicle Category	Model Year	Horsepower Bin	Fuel	Fuel Consumption	Horsepower_Hours_hhpy	Gallons/hp-hr
San Diego	2025	Construction and Mining - Cranes	Aggregate	600	Diesel	132578.54	2572875.39	0.0515293274
San Diego	2025	Construction and Mining - Excavators	Aggregate	50	Diesel	177472.18	3163617.91	0.0560978543
San Diego	2025	Construction and Mining - Graders	Aggregate	100	Diesel	4534.39	75187.39	0.0603078363
San Diego	2025	Construction and Mining - Misc - Concrete/Industrial Saws	Aggregate	50	Diesel	3704.75	88410.30	0.0419040542
San Diego	2025	Construction and Mining - Pavers	Aggregate	100	Diesel	15235.71	269485.24	0.0565363541
San Diego	2025	Construction and Mining - Paving Equipment	Aggregate	100	Diesel	8667.03	145452.91	0.0595865147
San Diego	2025	Construction and Mining - Rollers	Aggregate	100	Diesel	42798.91	737552.78	0.0580282670
San Diego	2025	Construction and Mining - Rubber Tired Dozers	Aggregate	600	Diesel	61641.31	1358914.52	0.0453606970
San Diego	2025	Construction and Mining - Tractors/Loaders/Backhoes	Aggregate	100	Diesel	737244.89	13051290.98	0.0564882735
San Diego	2025	Construction and Mining - Water Truck	Aggregate	600	Diesel	63212.69	1256072.33	0.0503256759
San Diego	2025	Industrial - Forklifts	Aggregate	100	Diesel	122053.45	2129208.54	0.0573233914
San Diego	2025	Light Commercial - Misc - Welders	Aggregate	50	Diesel	343527.05	13307921.90	0.0258137260
San Diego	2025	Portable Equipment - Non-Rental Compressor	Aggregate	50	Diesel	1051.62	59157.67	0.0177766437
San Diego	2025	Portable Equipment - Non-Rental Generator	Aggregate	50	Diesel	3596.94	202340.90	0.0177766437

EMFAC Output

Source: EMFAC2017 (v1.0.3) Emissions Inventory
Region Type: County
Region: San Diego
Calendar Year: 2025
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for VMT, trips/year for Trips, tons/year for Emissions, 1000 gallons/year for Fuel Consumption

Construction Fleet Fuel Consumption								
Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	VMT	Fuel Consumption (1000 Gal.)	Gallons/VMT
2024								
Worker (LDA, LDT1, LDT2)								
SAN DIEGO	2025	LDA	Aggregate	Aggregate	Diesel	239541618.9	4742.135689	
SAN DIEGO	2025	LDT1	Aggregate	Aggregate	Diesel	558366.009	23.50039121	
SAN DIEGO	2025	LDT2	Aggregate	Aggregate	Diesel	50651982.15	1350.672479	
					Diesel Total	**290751967**	**6116.308559**	**0.000217967**
SAN DIEGO	2025	LDA	Aggregate	Aggregate	Gasoline	19693709795	577401.5542	
SAN DIEGO	2025	LDT1	Aggregate	Aggregate	Gasoline	2068157775	72962.71422	
SAN DIEGO	2025	LDT2	Aggregate	Aggregate	Gasoline	6008096843	221832.8479	
					Gas Total	**27769964414**	**872197.1164**	**0.031082496**
					Total VMT	**28060716381**		
Vendor (HHDT, MHDT)								
SAN DIEGO	2025	HHDT	Aggregate	Aggregate	Diesel	624992116.9	88502.11399	
SAN DIEGO	2025	MHDT	Aggregate	Aggregate	Diesel	402737538.8	39016.03156	
					Diesel total	**1027729656**	**127518.1456**	**0.115750007**
SAN DIEGO	2025	HHDT	Aggregate	Aggregate	Gasoline	706585.5041	160.9223488	
SAN DIEGO	2025	MHDT	Aggregate	Aggregate	Gasoline	73232340.69	14328.22569	
					Gas Total	**73938926.19**	**14489.14804**	**0.013152003**
					Total VMT	**1101668582**		
Hauling (HHDT)								
SAN DIEGO	2025	HHDT	Aggregate	Aggregate	Diesel	624992116.9	88502.11399	**0.141445257**
SAN DIEGO	2025	HHDT	Aggregate	Aggregate	Gasoline	706585.5041	160.9223488	**2.57188E-07**
					Total VMT	**625698702.4**		

EMFAC Output

Source: EMFAC2021 (v1.0.2) Emissions Inventory
Region Type: Sub-Area
Region: San Diego (SD)
Calendar Year: 2026
Season: Annual
Vehicle Classification: EMFAC2007 Categories
Units: miles/year for VMT, kWh/year for Energy Consumption, 1000 gallons/year for Fuel Consumption

Region	Calendar Year	Vehicle Category	Model Year	Speed	Fuel	Total VMT	Energy Consumption	Fuel Consumption	Goline/VMT	Diesel/VMT	kWh/VMT	Nat. Gas/VMT
San Diego	2027	LDA	Aggregate	Aggregate	Gasoline	16074505170	0	535651.0521				
San Diego	2027	LDA	Aggregate	Aggregate	Diesel	42332484.91	0	1035.042217				
San Diego	2027	LDA	Aggregate	Aggregate	Electricity	1482764594	572469512.5	0				
San Diego	2027	LDA	Aggregate	Aggregate	Plug-in Hybrid	643469976	104124385.3	10966.83417				
					Total	**18243072225**			**2.9963E-02**	**5.6736E-05**	**3.7088E-02**	**0.0000E+00**
San Diego	2027	LDT1	Aggregate	Aggregate	Gasoline	1405746321	0	57841.95691				
San Diego	2027	LDT1	Aggregate	Aggregate	Diesel	119639.4598	0	5.114511519				
San Diego	2027	LDT1	Aggregate	Aggregate	Electricity	7610310.607	2938208.008	0				
San Diego	2027	LDT1	Aggregate	Aggregate	Plug-in Hybrid	5739119.443	1003897.129	88.94458725				
					Total	**1419215391**			**4.0819E-02**	**3.6038E-06**	**2.7777E-03**	**0.0000E+00**
San Diego	2027	LDT2	Aggregate	Aggregate	Gasoline	7919437137	0	326237.8691				
San Diego	2027	LDT2	Aggregate	Aggregate	Diesel	31139545.91	0	984.0168911				
San Diego	2027	LDT2	Aggregate	Aggregate	Electricity	76931190.04	29701788.83	0				
San Diego	2027	LDT2	Aggregate	Aggregate	Plug-in Hybrid	103400801.1	17509389.64	1679.039602				
					Total	**8130908674**			**4.0330E-02**	**1.2102E-04**	**5.8064E-03**	**0.0000E+00**
San Diego	2027	MCY	Aggregate	Aggregate	Gasoline	144828809.9	0	3681.949928				
					Total	**144828809.9**			**2.5423E-02**	**0.0000E+00**	**0.0000E+00**	**0.0000E+00**
San Diego	2027	MH	Aggregate	Aggregate	Gasoline	26096994.45	0	5913.613272				
San Diego	2027	MH	Aggregate	Aggregate	Diesel	12343047.36	0	1315.840921				
					Total	**38440041.81**			**1.5384E-01**	**3.4231E-02**	**0.0000E+00**	**0.0000E+00**
San Diego	2027	OBUS	Aggregate	Aggregate	Gasoline	16050534.75	0	3258.852561				
San Diego	2027	OBUS	Aggregate	Aggregate	Diesel	14148421.59	0	2022.054707				
San Diego	2027	OBUS	Aggregate	Aggregate	Electricity	456757.7807	506674.1841	0				
San Diego	2027	OBUS	Aggregate	Aggregate	Natural Gas	1617485.281	0	218.2873166				
					Total	**32273199.4**			**1.0098E-01**	**6.2654E-02**	**1.5700E-02**	**6.7637E-03**
San Diego	2027	SBUS	Aggregate	Aggregate	Gasoline	5318558.266	0	520.5871826				
San Diego	2027	SBUS	Aggregate	Aggregate	Diesel	14527596.91	0	1761.142927				
San Diego	2027	SBUS	Aggregate	Aggregate	Electricity	451453.9669	475586.7051	0				
San Diego	2027	SBUS	Aggregate	Aggregate	Natural Gas	178858.8832	0	29.62342377				
					Total	**20476468.03**			**2.5424E-02**	**8.6008E-02**	**2.3226E-02**	**1.4467E-03**
San Diego	2027	UBUS	Aggregate	Aggregate	Gasoline	4892604.102	0	504.6317984				
San Diego	2027	UBUS	Aggregate	Aggregate	Electricity	4243368.833	7397227.762	0				
San Diego	2027	UBUS	Aggregate	Aggregate	Natural Gas	36567116.91	0	6728.094569				
					Total	**45703089.84**			**0.011041525**	**0**	**0.161853997**	**0.147213123**
San Diego	2027	MDV	Aggregate	Aggregate	Gasoline	4590752849	0	229708.4503				
San Diego	2027	MDV	Aggregate	Aggregate	Diesel	74177561.99	0	3147.15638				
San Diego	2027	MDV	Aggregate	Aggregate	Electricity	81440427.03	31442726.48	0				
San Diego	2027	MDV	Aggregate	Aggregate	Plug-in Hybrid	66542207.41	11202804.33	1097.912279				
					Total	**4812913045**			**4.7956E-02**	**6.5390E-04**	**8.8606E-03**	**0.0000E+00**
San Diego	2027	LHDT1	Aggregate	Aggregate	Gasoline	542809368.7	0	53473.52692				
San Diego	2027	LHDT1	Aggregate	Aggregate	Diesel	394202706.2	0	24252.27522				
San Diego	2027	LHDT1	Aggregate	Aggregate	Electricity	29267301	19047317.27	0				
					Total	**966279375.9**			**5.5340E-02**	**2.5099E-02**	**1.9712E-02**	**0.0000E+00**
San Diego	2027	LHDT2	Aggregate	Aggregate	Gasoline	74910019.27	0	8370.753236				
San Diego	2027	LHDT2	Aggregate	Aggregate	Diesel	166228749.1	0	12198.18145				
San Diego	2027	LHDT2	Aggregate	Aggregate	Electricity	7226081.107	4627781.169	0				
					Total	**248364849.5**			**3.3703E-02**	**4.9114E-02**	**1.8633E-02**	**0.0000E+00**
San Diego	2027	MHDT	Aggregate	Aggregate	Gasoline	64008516.47	0	13038.57169				
San Diego	2027	MHDT	Aggregate	Aggregate	Diesel	235774861.2	0	27452.39976				
San Diego	2027	MHDT	Aggregate	Aggregate	Electricity	8835542.583	9738517.694	0				
San Diego	2027	MHDT	Aggregate	Aggregate	Natural Gas	4504535.518	0	618.7920438				
					Total	**313123455.7**			**4.1640E-02**	**8.7673E-02**	**3.1101E-02**	**1.9762E-03**
San Diego	2027	HHDT	Aggregate	Aggregate	Gasoline	154199.0969	0	38.25465059				
San Diego	2027	HHDT	Aggregate	Aggregate	Diesel	598243597.7	0	97100.98408				
San Diego	2027	HHDT	Aggregate	Aggregate	Electricity	10149799.44	18703432.21	0				
San Diego	2027	HHDT	Aggregate	Aggregate	Natural Gas	24490907.4	0	4840.035398				
					Total	**633038503.6**			**6.0430E-05**	**1.5339E-01**	**2.9545E-02**	**7.6457E-03**