ATTACHMENT D.2

AIR QUALITY ANALYSIS

Air Quality Analysis for the Santa Fe Flores Townhomes Project San Marcos, California

Project Nos. GPA25-0001, R25-0001, MFSDP25-0001, and TSM25-0001

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TABLE OF CONTENTS

FIGURES

TABLES

TABLE OF CONTENTS (cont.)

TABLES (cont.)

ATTACHMENTS

Acronyms and Abbreviations

°C	degrees Celsius
°F	degrees Fahrenheit
µg/m^3	micrograms per cubic meter
AAQS	Ambient Air Quality Standards
AB	Assembly Bill
APN	assessor parcel number
CAA	Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CARB	California Air Resources Board
CEQA	California Environmental Quality Act
CFR	Code of Federal Regulations
City	City of San Marcos
CO	carbon monoxide
DPM	diesel particulate matter
General Plan	City of San Marcos General Plan
GPA	General Plan Amendment
MND	Mitigated Negative Declaration
NAAQS	National Ambient Air Quality Standards
NO_2	nitrogen dioxide
NO_X	nitrogen oxides
O_3	oxygen
Pb	lead
PM_{10}	particulate matter with an aerodynamic diameter of 10 microns or less
$PM_{2.5}$	particulate matter with an aerodynamic diameter of 2.5 microns or less
ppb	parts per billion
ppm	parts per million
project	Santa Fe Flores Townhomes Project
RAQS	Regional Air Quality Standards
ROG	reactive organic gases
SANDAG	San Diego Association of Governments
SDAB	San Diego Air Basin
SDAPCD	San Diego Air Pollution Control District
SIP	State Implementation Plan
SO_2	sulfur dioxide
SO_X	oxides of sulfur
TAC	toxic air contaminants
TCM	Transportation Control Measures
U.S. EPA	U.S. Environmental Protection Agency
USC	United States Code
VOC	volatile organic compounds

Executive Summary

This report evaluates potential local and regional air quality impacts associated with the proposed Santa Fe Flores Townhomes Project (project), located in the city of San Marcos at 2966, 2972, and 2982 South Santa Fe Avenue adjacent to North Las Flores Drive. The 2.6-acre (net) project site comprises assessor parcel numbers (APNs) 217-161-18 and 217-161-19, as well as 0.37 acres of APN 217-161-17. The project would require a General Plan Amendment and Rezone to allow the development of 46 multi-family residential townhome units. The project also proposes approximately 0.12 acres of off-site improvements, including the construction of a new shared driveway extending into the southern portion of APN 217-161-17, upgrades to the existing liquor store parking lot, and landscaping within the 8-foot-wide irrevocable offer of dedication area along the project frontage. The liquor store, Gourmet Liquor, located on the southern portion of APN 217-161-17 is not part of the project and would remain.

The primary goal of the San Diego Air Pollution Control District's Regional Air Quality Strategy (RAQS) is to reduce ozone precursor emissions. Projects that propose development that is consistent with the growth anticipated by the San Diego Association of Governments' growth projections and the City of San Marcos (City) General Plan would not conflict with the RAQS. In the event that a project would propose development that is less dense than anticipated by the growth projections, the project would likewise be consistent with the RAQS. As calculated in this analysis, project emissions would be less than operational emissions associated with an industrial, commercial, and convenience market project that is consistent with the land use assumptions used in the RAQS. Therefore, the project would not result in an increase in emissions that are not already accounted for in the RAQS. Thus, it can be concluded that the project would not obstruct or conflict with the implementation of the RAQS.

Additionally, as calculated in this analysis, project construction emissions would not exceed the applicable screening level emissions thresholds. These thresholds are designed to provide limits below which project emissions would not significantly change regional air quality. Therefore, as project emissions would be well below these limits, project construction would not result in a cumulatively considerable net increase in emissions of ozone (O_3), particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), or particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$), and impacts would be less than significant. Additionally, construction emissions would be temporary, intermittent, and would cease at the end of project construction.

Long-term emissions of regional air pollutants occur from operational sources. Based on emissions estimates, project operational emissions would not exceed the applicable regional emissions thresholds. Therefore, as project operational emissions would be below these limits, project operation would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$, and impacts would be less than significant.

Sensitive land uses include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities. The nearest sensitive receptors are the residential uses located 300 feet to the northeast, 100 feet to the southeast, 160 feet to the south, and 115 feet to the southwest. The project is not anticipated to result in a carbon monoxide (CO) hot spot at

project area intersections. Construction of the project and associated infrastructure would result in short-term diesel exhaust emissions from on-site, heavy-duty equipment. However, given the temporary nature of construction activities and implementation of Best Available Control Technology for Toxics measures, the project would not result in the exposure of sensitive receptors to substantial pollutant concentrations during construction.

The project does not include heavy industrial or agricultural uses that are typically associated with objectionable odors. The project would involve the use of diesel-powered equipment during construction. Diesel exhaust may occasionally be noticeable at adjacent properties; however, construction activities would be temporary, and the odors would dissipate quickly in an outdoor environment. Therefore, this impact would be less than significant.

1.0 Introduction

The purpose of this report is to assess potential short-term and long-term local and regional air quality impacts resulting from development of the proposed Santa Fe Flores Townhomes Project (project).

Air pollution affects all southern Californians. Effects can include increased respiratory infections, increased discomfort, missed days from work and school, and increased mortality. Polluted air also damages agriculture and our natural environment.

The state of California is divided geographically into 15 air basins for managing the air resources of the state on a regional basis. Areas within each air basin are considered to share the same air masses and, therefore, are expected to have similar ambient air quality. The project site is located within the San Diego Air Basin (SDAB). The SDAB is currently classified as a federal non-attainment area for ozone, and a state non-attainment area for particulate matter with an aerodynamic diameter of 10 microns or less (PM_{10}), particulate matter with an aerodynamic diameter of 2.5 microns or less ($PM_{2.5}$), and ozone (O_3).

Air quality impacts can result from the construction and operation of the project. Construction impacts are short term and result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts can occur on two levels: regional impacts resulting from growth-inducing development, or local hot-spot effects stemming from sensitive receivers being placed close to highly congested roadways. In the case of this project, operational impacts would be primarily due to emissions to the basin from mobile sources associated with vehicular travel along the roadways within the project area.

The analysis of impacts is based on federal and state Ambient Air Quality Standards and is assessed in accordance with the guidelines, policies, and standards established by the City of San Marcos (City) and the San Diego Air Pollution Control District (SDAPCD). Project compatibility with the adopted air quality plan for the area is also assessed. Measures are recommended, as required, to reduce potentially significant impacts.

2.0 Project Description

The 2.6-acre (net) project site is located in the city of San Marcos at 2966, 2972, and 2982 South Santa Fe Avenue adjacent to North Las Flores Drive on assessor parcel numbers (APNs) 217-161-18 and 217-161-19, as well as 0.37 acres of APN 217-161-17. The project also proposes approximately 0.12 acres of off-site improvements, including the construction of a new shared driveway extending into the southern portion of APN 217-161-17, upgrades to the existing liquor store parking lot, and landscaping within the 8-foot-wide irrevocable offer of dedication area along the project frontage. Figure 1 shows the regional location. Figure 2 shows an aerial photograph of the project site and vicinity.

On February 28, 2023, the City Council adopted a Mitigated Negative Declaration (MND; ND22-008; State Clearinghouse Number 2022090486), approved a General Plan Amendment (GPA; GPA21-0008), and approved a Multi-Family Site Development Plan (MFSDP21-0002) for the Santa Fe Flores, LP Project (approved project). The requested Rezone (R21-0004) required a second reading prior to approval on March 14, 2023. The approved project evaluated the impacts associated with a GPA to change the land use from Commercial (C) and Light Industrial (L-I) to Medium Density Residential 2 (MDR2) and a zone change from Commercial (C) and Light Industrial (L-I) to Multi-Family Residential (R-3-10) to allow for the construction of 50 multi-family residential townhome units, in conjunction with a Density Bonus, on a 2.23-acre site consisting of two parcels, APNs 217-161-18 and 217-161-19.

Subsequent to MND approval, the applicant modified the site plan and added 0.37 acres of APN 217-161-17 through a lot line adjustment to be processed. The project would require a GPA from Medium Density Residential 2 (MDR2) to Medium High Density Residential (MHDR) for APNs 217-161-18 and 217-161-19, and a GPA from Commercial (C) to Medium High Density Residential (MHDR) for 0.37 acres of the northern portion of APN 217-161-17. Additionally, the project would rezone APNs 217-161-18 and 217-161-19 from Multi-Family Residential 3 (R-3-10) to Multi-Family Residential (R-3-6) and 0.37 acres of the northern portion of APN 217-161-17 from Commercial (C) to Multi-Family Residential (R-3-6). The project would develop 46 multi-family residential townhome units in seven buildings that would be three stories and 35 feet 4 inches in height. Vehicle parking would include 92 spaces within attached garages and 15 guest spaces. The liquor store would not be part of the project and would remain. Project grading would include 23,300 cubic yards of cut and 3,200 cubic yards of fill resulting in the export of 20,100 cubic yards of soil. Figure 3 shows the proposed site plan.

3.0 Regulatory Framework

3.1 Federal Regulations

Ambient Air Quality Standards (AAQS) represent the maximum levels of background pollution considered safe, with an adequate margin of safety, to protect public health and welfare. The federal Clean Air Act (CAA) was enacted in 1970 and amended in 1977 and 1990 (42 United States Code [USC] 7401) for the purposes of protecting and enhancing the quality of the nation's air resources to benefit public health, welfare, and productivity. In 1971, in order to achieve the purposes of

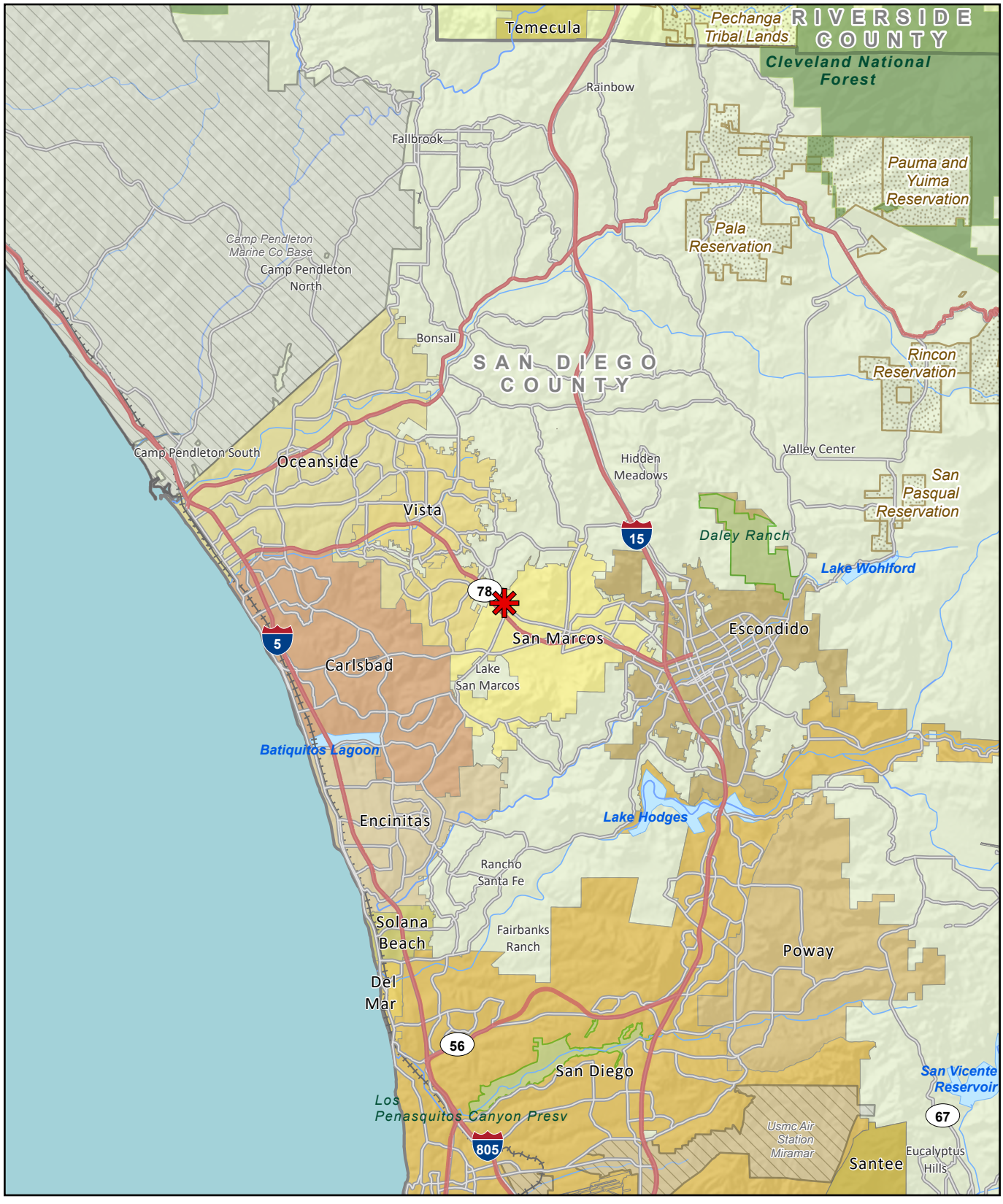

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FIGURE 1
Regional Location

Image Source: Nearmap (flown May 2025)

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FIGURE 2
Project Location on Aerial Photograph

Map Source: PLSA Engineering

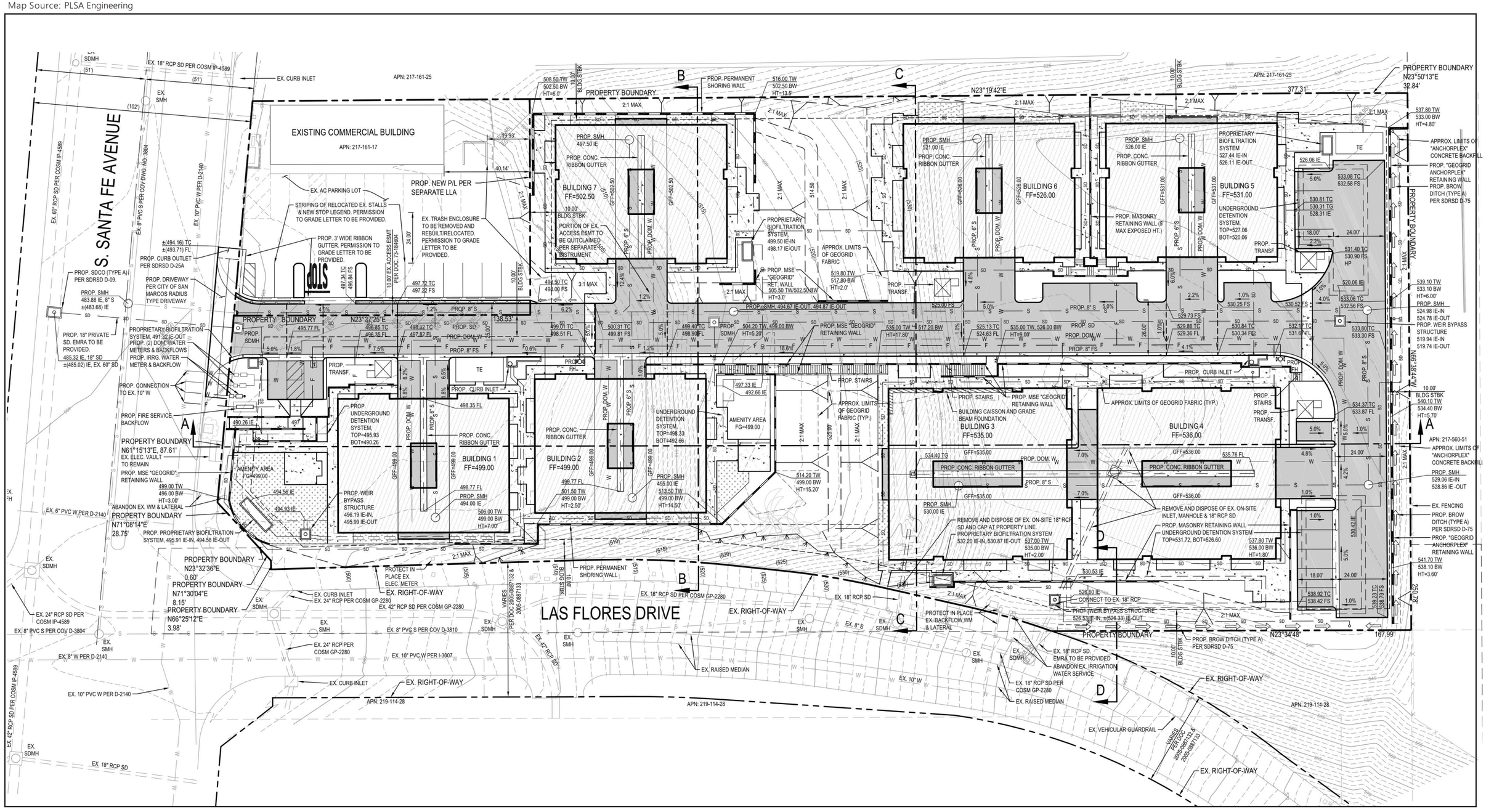

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FIGURE 3
Site Plan

Section 109 of the CAA [42 USC 7409], the U.S. Environmental Protection Agency (U.S. EPA) developed primary and secondary National Ambient Air Quality Standards (NAAQS).

Six criteria pollutants of primary concern have been designated: ozone, carbon monoxide (CO), sulfur dioxide (SO_2), nitrogen dioxide (NO_2), lead (Pb), and respirable particulate matter (PM_{10} and $PM_{2.5}$). The primary NAAQS ". . . in the judgment of the Administrator, based on such criteria and allowing an adequate margin of safety, are requisite to protect the public health . . ." and the secondary standards ". . . protect the public welfare from any known or anticipated adverse effects associated with the presence of such air pollutant in the ambient air" (42 USC 7409[b][2]). The primary NAAQS were established, with a margin of safety, considering long-term exposure for the most sensitive groups in the general population (i.e., children, senior citizens, and people with breathing difficulties). The NAAQS are presented in Table 1 (California Air Resources Board [CARB] 2024).

An air basin is designated as either attainment or non-attainment for a particular pollutant. Once a non-attainment area has achieved the AAQS for a particular pollutant, it is re-designated as an attainment area for that pollutant. To be redesignated, the area must meet air quality standards for three consecutive years. After re-designation to attainment, the area is known as a maintenance area and must develop a 10-year plan for continuing to meet and maintain air quality standards, as well as satisfy other requirements of the federal CAA. The SDAB is a non-attainment area for the federal ozone standard.

3.2 State Regulations

3.2.1 Criteria Pollutants

The CARB has developed the California Ambient Air Quality Standards (CAAQS) and generally has set more stringent limits on the criteria pollutants than the NAAQS (see Table 1). In addition to the federal criteria pollutants, the CAAQS also specify standards for visibility-reducing particles, sulfates, hydrogen sulfide, and vinyl chloride (see Table 1).

Similar to the federal CAA, the state classifies as either "attainment" or "non-attainment" areas for each pollutant based on the comparison of measured data with the CAAQS. The SDAB is a non-attainment area for the state ozone standards, the state PM_{10} standard, and the state $PM_{2.5}$ standard.

3.2.2 Toxic Air Contaminants

The public's exposure to toxic air contaminants (TACs) is a significant public health issue in California. Diesel-exhaust particulate matter emissions have been established as TACs. In 1983, the California Legislature enacted a program to identify the health effects of TACs and to reduce exposure to these contaminants to protect the public health (Assembly Bill [AB] 1807: Health and Safety Code Sections 39650–39674). The California Legislature established a two-step process to address the potential health effects from TACs. The first step is the risk assessment (or identification) phase. The second step is the risk management (or control) phase of the process.

Table 1
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		National Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	–	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.07 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM_{10})[9]	24 Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		–		
Fine Particulate Matter ($PM_{2.5}$)[9]	24 Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	9 µg/m^3	15 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-dispersive Infrared Photometry	35 ppm (40 mg/m^3)	–	Non-dispersive Infrared Photometry
	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)		–	–	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m^3)	Gas Phase Chemi-luminescence	100 ppb (188 µg/m^3)	–	Gas Phase Chemi-luminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		0.053 ppm (100 µg/m^3)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m^3)	Ultraviolet Fluorescence	75 ppb (196 µg/m^3)	–	Ultraviolet Fluorescence; Spectro-photometry (Pararosaniline Method)
	3 Hour	–		–	0.5 ppm (1,300 µg/m^3)	
	24 Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (for certain areas)[11]	–	
	Annual Arithmetic Mean	–		0.030 ppm (for certain areas)[11]	–	
Lead[12,13]	30 Day Average	1.5 µg/m^3	Atomic Absorption	–	–	High Volume Sampler and Atomic Absorption
	Calendar Quarter	–		1.5 µg/m^3 (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	–		0.15 µg/m^3		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m^3	Ion Chroma-tography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m^3)	Gas Chroma-tography			

See footnotes on next page.

Table 1
Ambient Air Quality Standards

ppm = parts per million; ppb = parts per billion; µg/m^3 = micrograms per cubic meter; – = not applicable.

[1] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[2] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the U.S. EPA for further clarification and current national policies.

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent measurement method which can be shown to the satisfaction of the Air Resources Board to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

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

[7] Reference method as described by the U.S. EPA. An "equivalent method" of measurement may be used but must have a "consistent relationship to the reference method" and must be approved by the U.S. EPA.

[8] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[9] On February 7, 2024, the national annual $PM_{2.5}$ primary standard was lowered from 12.0 µg/m^3 to 9.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standards of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[10] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national standards are in units of ppb. California standards are in units of ppm. To directly compare the national standards to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.

[11] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated non-attainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved.
Note that the 1-hour national standard is in units of ppb. California standards are in units of ppm. To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

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

[13] The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated non-attainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.

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

SOURCE: CARB 2024.

The California air toxics Program establishes the process for the identification and control of TACs and includes provisions to make the public aware of significant toxic exposures and for reducing risk. Additionally, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, 1987, Connelly Bill) was enacted in 1987 and requires stationary sources to report the types and quantities of certain substances routinely released into the air.

The goals of the Air Toxics "Hot Spots" Act are to collect emission data, to identify facilities having localized impacts, to ascertain health risks, to notify nearby residents of significant risks, and to reduce those significant risks to acceptable levels.

The Children's Environmental Health Protection Act, California Senate Bill 25 (Chapter 731, Escutia, Statutes of 1999), focuses on children's exposure to air pollutants. The act requires CARB to review its air quality standards from a children's health perspective, evaluate the statewide air monitoring network, and develop any additional air toxic control measures needed to protect children's health. Locally, toxic air pollutants are regulated through the SDAPCD's Regulation XII. Of particular concern statewide are diesel-exhaust particulate matter emissions. Diesel-exhaust particulate matter was established as a TAC in 1998 and is estimated to represent a majority of the cancer risk from TACs statewide (based on the statewide average). Diesel exhaust is a complex mixture of gases, vapors, and fine particles. This complexity makes the evaluation of health effects of diesel exhaust a complex scientific issue. Some of the chemicals in diesel exhaust, such as benzene and formaldehyde, have been previously identified as TACs by the CARB and are listed as carcinogens either under the state's Proposition 65 or under the federal Hazardous Air Pollutants program.

Following the identification of diesel particulate matter (DPM) as a TAC in 1998, CARB has worked on developing strategies and regulations aimed at reducing the risk from DPM. The overall strategy for achieving these reductions is found in the *Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles* (CARB 2000). To monitor the effectiveness of the efforts to reduce DPM, CARB has supported field campaigns that measure real-world emissions from heavy-duty vehicles, and results indicate that regulations aimed at reducing emissions of DPM have been successful.

In April 2005, CARB published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005). The handbook makes recommendations directed at protecting sensitive land uses from air pollutant emissions while balancing a myriad of other land use issues (e.g., housing, transportation needs, economics). It notes that the handbook is not regulatory or binding on local agencies and recognizes that application takes a qualitative approach. As reflected in the CARB Handbook, there is currently no adopted standard for the significance of health effects from mobile sources. Therefore, the CARB has provided guidelines for the siting of land uses near heavily traveled roadways. Of pertinence to this study, the CARB guidelines indicate that siting new sensitive land uses within 500 feet of a freeway or urban roads with 100,000 or more vehicles per day should be avoided when possible.

However, transit-oriented, infill, and compact development characterizes many communities located near heavily traveled roadways. This type of development pattern has many benefits, including reducing traffic. To address these issues, in April 2017, CARB published the *Technical Advisory: Strategies to Reduce Air Pollution Exposure Near High Volume Roadways* (Technical Advisory; CARB 2017). The Technical Advisory acknowledges the benefits of transit-oriented infill development, which

often occurs adjacent to high-volume roadways, and identifies strategies to reduce exposure, including practices and technologies that reduce traffic emissions, increase dispersion of traffic pollution, and remove pollution from the air. Strategies that reduce traffic emissions include speed reduction mechanisms (e.g., reduced speed limits, speed bumps, roundabouts) and traffic signal management. Strategies that increase the dispersion of traffic emissions include land use designs that promote airflow and pollutant dispersion along street corridors, solid barriers (such as sound walls), and vegetation. Strategies that remove pollution from the air include indoor high efficiency filtration.

As an ongoing process, CARB will continue to establish new programs and regulations for the control of diesel particulate and other air-toxics emissions as appropriate. The continued development and implementation of these programs and policies will ensure that the public's exposure to DPM will continue to decline.

3.2.3 State Implementation Plan

The State Implementation Plan (SIP) is a collection of documents that set forth the state's strategies for achieving the NAAQS. In California, the SIP is a compilation of new and previously submitted plans, programs (air quality management plans, monitoring, modeling, permitting, etc.), district rules, state regulations, and federal controls. The CARB is the lead agency for all purposes related to the SIP under state law. Local air districts and other agencies, such as the Department of Pesticide Regulation and the Bureau of Automotive Repair, prepare SIP elements and submit them to CARB for review and approval. The CARB then forwards SIP revisions to the U.S. EPA for approval and publication in the Federal Register. All the items included in the California SIP are listed in the Code of Federal Regulations (CFR) at 40 CFR 52.220.

The SDAPCD is responsible for preparing and implementing the portion of the SIP applicable to the SDAB. The SIP plans for San Diego County specifically include the Redesignation Request and Maintenance Plan for the 1997 National Ozone Standard for San Diego County (SDAPCD 2012), the 2004 Revision to the California State Implementation Plan for Carbon Monoxide–Updated Maintenance Plan for Ten Federal Planning Areas (CARB 2004), and the 2020 Plan for Attaining the National Ambient Air Quality Standard for Ozone in San Diego County (SDAPCD 2020).

3.2.4 The California Environmental Quality Act

Section 15125(d) of the California Environmental Quality Act (CEQA) Guidelines requires discussion of any inconsistencies between the project and applicable general plans and regional plans, including the applicable air quality attainment or maintenance plan (or SIP).

3.3 San Diego Air Pollution Control District

3.3.1 Regional Air Quality Strategy

The SDAPCD is the agency that regulates air quality in the SDAB. The SDAPCD prepared the Regional Air Quality Strategy (RAQS) in response to the requirements set forth in the California CAA AB 2595

(SDAPCD 1992) and the federal CAA. Motor vehicles are San Diego County's leading source of air pollution (SDAPCD 2022). In addition to these sources, other mobile sources include construction equipment, trains, and airplanes. Reducing mobile source emissions requires the technological improvement of existing mobile sources and the examination of future mobile sources, such as those associated with new or modification projects (e.g., retrofitting older vehicles with cleaner emission technologies). In addition to mobile sources, stationary sources also contribute to air pollution in the SDAB. Stationary sources include gasoline stations, power plants, dry cleaners, and other commercial and industrial uses. Stationary sources of air pollution are regulated by the local air pollution control or management district, in this case the SDAPCD.

The SDAPCD is responsible for preparing and implementing the RAQS. As part of the RAQS, the SDAPCD developed Transportation Control Measures (TCMs) for the air quality plan prepared by the San Diego Association of Governments (SANDAG) in accordance with AB 2595 and adopted by SANDAG on March 27, 1992, as Resolution Number 92-49 and Addendum. The RAQS and TCM set forth the steps needed to accomplish attainment of NAAQS and CAAQS. The most recent update of the RAQS and TCM occurred in 2022 (SDAPCD 2022).

3.3.2 Rules and Regulations

The SDAPCD has also established a set of rules and regulations initially adopted on January 1, 1969, and periodically reviewed and updated. The following rules and regulations are applicable to the project:

- SDAPCD Regulation IV: Prohibitions; Rule 50: Visible Emissions. Prohibits discharge into the atmosphere from any single source of emissions whatsoever any air contaminant for a period or periods aggregating more than three minutes in any period of 60 consecutive minutes that is darker in shade than that designated as Number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines, or of such opacity as to obscure an observer's view to a degree greater than does smoke of a shade designated as Number 1 on the Ringelmann Chart.

- SDAPCD Regulation IV: Prohibitions; Rule 51: Nuisance. Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property.

- SDAPCD Regulation IV: Prohibitions; Rule 55: Fugitive Dust. Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site.

- SDAPCD Regulation IV: Prohibitions; Rule 67.0.1: Architectural Coatings. Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce volatile organic compounds (VOC) emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.

- SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1200: Toxic Air Contaminants – New Source Review. Requires new or modified stationary source units with the potential to emit TACs above rule threshold levels to either demonstrate that they will not increase the maximum incremental cancer risk above one in one million at every receptor location, or demonstrate that toxics best available control technology will be employed if maximum incremental cancer risk is equal to or less than 10 in one million, or demonstrate compliance with SDAPCD's protocol for those sources with an increase in maximum incremental cancer risk at any receptor location of greater than 10 in one million but less than 100 in one million.

- SDAPCD Regulation XII: Toxic Air Contaminates; Rule 1210: Toxic Air Contaminant Public Health Risks – Public Notification and Risk Reduction. Requires each stationary source that is required to prepare a public risk assessment to provide written public notice of risks at or above the following levels: maximum incremental cancer risks equal to or greater than 10 in one million, or cancer burden equal to or greater than 1.0, or total acute non-cancer health hazard index equal to or greater than 1.0, or total chronic non-cancer health hazard index equal to or greater than 1.0.

4.0 Environmental Setting

4.1 Geographic Setting

The project is located in the city of San Marcos, about eight miles east of the Pacific Ocean. The eastern portion of the SDAB is surrounded by mountains to the north, east, and south. These mountains tend to restrict airflow and concentrate pollutants in the valleys and low-lying areas below.

4.2 Climate

The project area, like the rest of San Diego County, has a Mediterranean climate characterized by warm, dry summers and mild winters. The mean annual temperature for the project area is 63 degrees Fahrenheit (°F). The average annual precipitation is 10 inches, falling primarily from November to April. Winter low temperatures in the project area average about 47°F, and summer high temperatures average about 75°F (National Oceanic and Atmospheric Administration 2024).

The dominant meteorological feature affecting the region is the Pacific High Pressure Zone, which produces the prevailing westerly to northwesterly winds. These winds tend to blow pollutants away from the coast toward the inland areas. Consequently, air quality near the coast is generally better than that which occurs at the base of the coastal mountain range.

Fluctuations in the strength and pattern of winds from the Pacific High Pressure Zone interacting with the daily local cycle produce periodic temperature inversions that influence the dispersal or containment of air pollutants in the SDAB. Beneath the inversion layer pollutants become "trapped" as their ability to disperse diminishes. The mixing depth is the area under the inversion layer. Generally, the morning inversion layer is lower than the afternoon inversion layer. The greater the change between the morning and afternoon mixing depths, the greater the ability of the atmosphere to disperse pollutants.

Throughout the year, the height of the temperature inversion in the afternoon varies between approximately 1,500 and 2,500 feet above mean sea level. In winter, the morning inversion layer is about 800 feet above mean sea level. In summer, the morning inversion layer is about 1,100 feet above mean sea level. Therefore, air quality generally tends to be better in the winter than in the summer.

The prevailing westerly wind pattern is sometimes interrupted by regional "Santa Ana" conditions. A Santa Ana occurs when a strong high pressure develops over the Nevada-Utah area and overcomes the prevailing westerly coastal winds, sending strong, steady, hot, dry northeasterly winds over the mountains and out to sea.

Strong Santa Anas tend to blow pollutants out over the ocean, producing clear days. However, at the onset or during breakdown of these conditions, or if the Santa Ana is weak, local air quality may be adversely affected. In these cases, emissions from the South Coast Air Basin to the north are blown out over the ocean, and low pressure over Baja California draws this pollutant-laden air mass southward. As the high pressure weakens, prevailing northwesterly winds reassert themselves and send this cloud of contamination ashore in the SDAB. When this event does occur, the combination of transported and locally produced contaminants produce the worst air quality measurements recorded in the basin.

4.3 Existing Air Quality

Air quality at a particular location is a function of the kinds, amounts, and dispersal rates of pollutants being emitted into the air locally and throughout the basin. The major factors affecting pollutant dispersion are wind speed and direction, the vertical dispersion of pollutants (which is affected by inversions), and the local topography.

Air quality is commonly expressed as the number of days in which air pollution levels exceed state standards set by the CARB or federal standards set by the U.S. EPA. The SDAPCD currently maintains nine air quality monitoring stations located throughout the greater San Diego metropolitan region. Air pollutant concentrations and meteorological information are continuously recorded at these stations. Measurements are then used by scientists to help forecast daily air pollution levels.

The Camp Pendleton monitoring station, located at 21441 West B Street, approximately 12 miles northwest of the project site, is the nearest station to the project site. The Camp Pendleton monitoring station measures ozone (O_3), nitrogen dioxide (NO_2), and $PM_{2.5}$. The closest station of the project site that has more complete $PM_{2.5}$ data is the San Diego–Kearny Villa Road monitoring station located at 6125A Kearny Villa Road, approximately 22 miles south of the project site. The San Diego–Kearny Villa Road monitoring station measures ozone, NO_2, and $PM_{2.5}$. Table 2 provides a summary of measurements collected at the Camp Pendleton and Kearny Villa Road monitoring station for the years 2020 through 2024, which is the most recent available data.

Table 2 Summary of Air Quality Measurements Recorded at the Camp Pendleton and Kearny Villa Road Monitoring Stations					
Pollutant/Standard	2020	2021	2022	2023	2024
CAMP PENDLETON MONITORING STATION					
Ozone					
Federal Max 8-hr (ppm)	0.074	0.059	0.067	0.077	0.065
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	3	0	0	1	0
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	0	0	0	1	0
State Max 8-hr (ppm)	0.074	0.059	0.067	0.077	0.065
Days State 8-hour Standard Exceeded (0.07 ppm)	3	0	0	1	0
Max. 1-hour (ppm)	0.094	0.074	0.076	0.090	0.074
Days State 1-hour Standard Exceeded (0.09 ppm)	0	0	0	0	0
Nitrogen Dioxide					
Max 1-hour (ppm)	0.058	0.059	0.0504	0.0632	0.0454
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppb)	0	0	0	0	0
Annual Average (ppm)	0.006	--	0.005	0.005	0.004
$PM_{2.5}$*					
Federal Max. Daily ($\mu g/m^3$)	--	--	17.0	26.5	25.8
Measured Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	--	--	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	--	--	--	0.0	0.0
Federal Annual Average ($\mu g/m^3$)	--	--	--	7.8	7.6
State Max. Daily ($\mu g/m^3$)	61.1	20.7	17.7	--	--
State Annual Average ($\mu g/m^3$)	9.5	--	--	--	--
SAN DIEGO – KEARNY VILLA ROAD MONITORING STATION					
Ozone					
Federal Max 8-hr (ppm)	0.102	0.071	0.083	0.079	0.080
Days 2015 Federal 8-hour Standard Exceeded (0.07 ppm)	10	1	2	3	3
Days 2008 Federal 8-hour Standard Exceeded (0.075 ppm)	6	0	1	1	1
State Max 8-hr (ppm)	0.102	0.072	0.083	0.080	0.081
Days State 8-hour Standard Exceeded (0.07 ppm)	12	2	2	3	3
Max. 1-hour (ppm)	0.123	0.095	0.095	0.091	0.112
Days State 1-hour Standard Exceeded (0.09 ppm)	2	1	1	0	2
Nitrogen Dioxide					
Max 1-hour (ppm)	0.052	0.060	0.0512	0.0384	0.0421
Days State 1-hour Standard Exceeded (0.18 ppm)	0	0	0	0	0
Days Federal 1-hour Standard Exceeded (0.100 ppb)	0	0	0	0	0
Annual Average (ppm)	0.007	0.007	0.008	0.006	0.005
$PM_{2.5}$*					
Federal Max. Daily ($\mu g/m^3$)	57.5	20.9	13.9	24.5	21.1
Measured Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	2	0	0	0	0
Calculated Days Federal 24-hour Standard Exceeded (35 $\mu g/m^3$)	5.8	0.0	0.0	0.0	0.0
Federal Annual Average ($\mu g/m^3$)	8.7	7.6	6.8	7.0	8.0
State Max. Daily ($\mu g/m^3$)	--	--	--	--	--
State Annual Average ($\mu g/m^3$)	--	--	--	--	--

SOURCE: CARB 2025.
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter; -- = Not available.
* Calculated days value. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

4.3.1 Ozone

Nitrogen oxides (NO_X) and hydrocarbons (reactive organic gases [ROG]) are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone, which is the primary air pollution problem in the SDAB. Because sunlight plays such an important role in its formation, ozone pollution—or smog—is mainly a concern during the daytime in summer months. The SDAB is currently designated a federal and state non-attainment area for ozone. During the past three decades, San Diego had experienced a decline in the number of days with unhealthy levels of ozone despite the region's growth in population and vehicle miles traveled (SDAPCD 2022).

About half of smog-forming emissions come from automobiles. Population growth in San Diego has resulted in a large increase in the number of automobiles expelling ozone-forming pollutants while operating on area roadways. In addition, the occasional transport of smog-filled air from the South Coast Air Basin only adds to the SDAB's ozone problem. Stricter automobile emission controls, including more efficient automobile engines, have played a large role in why ozone levels have steadily decreased.

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthma sufferers and children, but healthy adults as well. Exposure to ozone has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled), and impairing respiratory mechanics. Symptomatic responses include throat dryness, chest tightness, headache, and nausea.

4.3.2 Carbon Monoxide

The SDAB is classified as a state attainment area and as a federal maintenance area for CO. Until 2003, no violations of the state standard for CO had been recorded in the SDAB since 1991, and no violations of the national standard had been recorded in the SDAB since 1989. The violations that took place in 2003 were likely the result of massive wildfires that occurred throughout the county. No violations of the state or federal CO standards have occurred since 2003.

Small-scale, localized concentrations of CO above the state and national standards have the potential to occur at intersections with stagnation points such as those that occur on major highways and heavily traveled and congested roadways. Localized high concentrations of CO are referred to as "CO hot spots" and are a concern at congested intersections, where automobile engines burn fuel less efficiently and their exhaust contains more CO.

Adverse health effects associated with high concentrations of CO include the reduction of the oxygen-carrying capacity of the blood, which can cause headaches, nausea, dizziness, and fatigue; impair central nervous system function; and induce angina (chest pain) in persons with serious heart disease. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases. Very high levels of CO can be fatal.

4.3.3 Nitrogen Dioxide

Nitrogen dioxide is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. The national and state standards for NO_2 are being met in the SDAB. Inhalation is the most common route of exposure to NO_2. Because NO_2 has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms, including coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4 to 12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat.

4.3.4 Sulfur Dioxide

Sulfur dioxide is a combustion product, with the primary source being power plants and heavy industries that use coal or oil as fuel. SO_2 is also a product of diesel engine combustion. The national and state standards for SO_2 are being met in the SDAB. The health effects of SO_2 include lung disease and breathing problems for people with asthma. SO_2 in the atmosphere contributes to the formation of acid rain.

4.3.5 Particulate Matter

Particulate matter is a complex mixture of microscopic solid or liquid particles including chemicals, soot, and dust. Anthropogenic sources of direct particulate emissions include crushing or grinding operations, dust stirred up by vehicle traffic, and combustion sources such as motor vehicles, power plants, wood burning, forest fires, agricultural burning and industrial processes. Additionally, indirect emissions may be formed when aerosols react with compounds found in the atmosphere.

Health studies have shown a significant association between exposure to particulate matter and premature death in people with heart or lung diseases. Other important effects include aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and irregular heartbeat (U.S. EPA 2025).

As its properties vary based on the size of suspended particles, particulate matter is generally categorized as PM_{10} or $PM_{2.5}$.

4.3.5.1 PM_{10}

PM_{10}, occasionally referred to as "inhalable coarse particles," has an aerodynamic diameter of about one-seventh of the diameter of a human hair. High concentrations of PM_{10} are often found near roadways, construction, mining, or agricultural operations.

4.3.5.2 $PM_{2.5}$

$PM_{2.5}$, occasionally referred to as "inhalable fine particles," has an aerodynamic diameter of about one-thirtieth of the diameter of a human hair. $PM_{2.5}$ is the main cause of haze in many parts of the United States. Federal standards applicable to $PM_{2.5}$ were first adopted in 1997.

4.3.6 Lead

Lead is a metal found naturally in the environment as well as in manufactured products. At high levels of exposure, lead can have detrimental effects on the central nervous system. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase out of leaded gasoline, metal processing is currently the primary source of lead emissions. The previous standards for lead are being met in the SDAB.

4.3.7 Other Criteria Pollutants

The SDAB is in attainment of the state standards for vinyl chloride, hydrogen sulfide, sulfates, and visibility-reducing particulates.

5.0 Thresholds of Significance

Thresholds used to evaluate potential impacts to air quality are based on applicable criteria in the CEQA Guidelines Appendix G. The project would have a significant air quality impact if it would:

1. Obstruct or conflict with the implementation of the RAQS.

2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.

3. Expose sensitive receptors to substantial pollutant concentrations.

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

The City has not adopted air quality significance thresholds. The SDAPCD also does not provide specific numeric thresholds for determining the significance of air quality impacts under CEQA. However, the SDAPCD does specify Air Quality Impact Analysis trigger levels for new or modified stationary sources (SDAPCD Rules 20.1, 20.2, and 20.3). The SDAPCD does not consider these trigger levels to represent adverse air quality impacts, rather, if these trigger levels are exceeded by a project, the SDAPCD requires an air quality analysis to determine if a significant air quality impact would occur. While, these trigger levels do not generally apply to mobile sources or general land development projects, for comparative purposes these levels are used to evaluate the increased emissions that would be discharged to the SDAB if the project were approved. The air quality impact screening levels used in this analysis are shown in Table 3.

Table 3 Air Quality Impact Screening Levels			
	Emission Rate		
Pollutant	Pounds/Hour	Pounds/Day	Tons/Year
NO_X	25	250	40
SO_X	25	250	40
CO	100	550	100
PM_{10}	--	100	15
Lead	--	3.2	0.6
VOC, ROG[1]	--	250	--
$PM_{2.5}$	--	67	10
SOURCE: SDAPCD, Rules 20.1, 20.2, 20.3. [1]ROG threshold based on federal General Conformity *de minimus* levels for ozone precursors.			

6.0 Air Quality Assessment

Construction impacts are short term and result from fugitive dust, equipment exhaust, and indirect effects associated with construction workers and deliveries. Operational impacts can occur on two levels: regional or local. In the case of this project, operational impacts are primarily due to emissions from mobile sources associated with vehicular travel along the roadways within the project area.

Construction and operation air emissions were calculated using California Emissions Estimator Model (CalEEMod) 2022.1.33 (California Air Pollution Control Officers Association 2022). The CalEEMod program is a tool used to estimate air emissions resulting from land development projects based on California-specific emission factors. The model estimates mass emissions from two basics sources: construction sources and operational sources (i.e., area, energy, and mobile sources).

Inputs to CalEEMod include such items as the air basin containing the project, land uses, trip generation rates, trip lengths, vehicle fleet mix (i.e., percentage of autos, medium truck, etc.), trip destination (i.e., percent of trips from home to work, etc.), duration of construction phases, construction equipment usage, grading areas, season, and ambient temperature, as well as other parameters. The CalEEMod output files contained in Attachment 1 indicate the specific outputs for each model run. Emissions of NO_X, CO, SO_X, PM_{10}, $PM_{2.5}$, and ROG are calculated. Emission factors are not available for lead, and consequently, lead emissions are not calculated. The SDAB is currently in attainment of the federal and state lead standards. Furthermore, fuel used in construction equipment and most other vehicles is not leaded.

6.1 Construction Emissions

Construction-related activities are temporary, short-term sources of air emissions. Sources of construction-related air emissions include the following:

- fugitive dust from grading activities;
- construction equipment exhaust;
- construction-related trips by workers, delivery trucks, and material-hauling trucks; and
- construction-related power consumption.

Construction-related pollutants result from dust raised during grading, emissions from construction vehicles, and chemicals used during construction. Fugitive dust emissions vary greatly during construction and are dependent on the amount and type of activity, silt content of the soil, and the weather. Vehicles moving over paved and unpaved surfaces, demolition, excavation, earth movement, grading, and wind erosion from exposed surfaces are all sources of fugitive dust. Construction operations are subject to the requirements established in Regulation 4, Rules 52, 54, and 55 of the SDAPCD's rules and regulations.

Heavy-duty construction equipment is usually diesel powered. In general, emissions from diesel-powered equipment contain more NO_X, SO_X, and particulate matter than gasoline-powered engines. However, diesel-powered engines generally produce less CO and less ROG than gasoline-powered engines. Standard construction equipment includes tractors/loaders/backhoes, rubber-tired dozers, excavators, graders, cranes, forklifts, rollers, paving equipment, generator sets, welders, cement and mortar mixers, and air compressors.

Primary inputs are the numbers of each piece of equipment and the length of each construction stage. Specific construction phasing and equipment parameters are not available at this time. However, CalEEMod can estimate the required construction equipment when project-specific information is unavailable. The estimates are based on surveys, performed by the South Coast Air Quality Management District and the Sacramento Metropolitan Air Quality Management District, of typical construction projects which provide a basis for scaling equipment needs and schedule with a project's size. Air emission estimates in CalEEMod are based on the duration of construction phases; construction equipment type, quantity, and usage; grading area; season; and ambient temperature, among other parameters. Construction emissions were modeled assuming construction would begin in January 2026 and last for approximately one year. This is based on CalEEMod default construction duration for all phases except for grading, which is anticipated to last for one month. Assuming construction would begin in January 2026 is conservative, as continued implementation of regulations for off-road equipment, the primary construction emission source, would reduce emissions from these sources over time. Project grading would include 23,300 cubic yards of cut and 3,200 cubic yards of fill resulting in the export of 20,100 cubic yards of soil.

Table 4 shows the total projected construction maximum daily emission levels for each criteria pollutant. The CalEEMod output files for construction emissions are contained in Attachment 1.

Table 4
Summary of Maximum Construction Emissions
(pounds per day)

Construction	Pollutant					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Site Preparation	1	10	11	<1	1	<1
Grading	2	23	18	<1	6	3
Building Construction	1	10	13	<1	1	<1
Paving	1	6	9	<1	<1	<1
Architectural Coatings	63	1	1	<1	<1	<1
Maximum Daily Emissions	**63**	**23**	**18**	**<1**	**6**	**3**
Significance Threshold	*250*	*250*	*550*	*250*	*100*	*67*

Standard dust control measures would be implemented as a part of project construction in accordance with SDAPCD rules and regulations. Fugitive dust emissions were calculated using CalEEMod default values and did not take into account the required dust control measures. Thus, the emissions shown in Table 4 are conservative.

For assessing the significance of the air quality emissions resulting during construction of the project, the construction emissions were compared to the screening thresholds shown in Table 4. As shown in Table 4, maximum daily construction emissions associated with the project are projected to be less than the applicable thresholds for all criteria pollutants. Construction related air quality impacts would be less than significant.

6.2 Operation Emissions

Mobile source emissions would originate from traffic generated by the project. Energy source emissions result from the combustion of natural gas. Area source emissions would result from the use of consumer products, architectural coatings, and landscaping activities.

6.2.1 Mobile Source Emissions

Mobile source operational emissions are based on the trip rate and trip length. The project would generate eight trips per unit for a total of 368 average daily trips (Linscott, Law and Greenspan, Engineers 2026). Default trip distances and default vehicle emission factors for the soonest operational year of 2027 were used.

6.2.2 Energy Source Emissions

Energy sources of emissions include natural gas used in space and water heating. Emissions are generated from the combustion of natural gas used in space and water heating. Emissions are based on the Residential Appliance Saturation Survey which is a comprehensive energy use assessment that includes the end use for various climate zones in California. As required by the County's Climate Action Plan, the project would not include natural gas appliances. Energy-source emissions were modeled using CalEEMod default assumptions.

6.2.3 Area Source Emissions

Area source emissions associated with the project include consumer products, architectural coatings, and landscaping equipment. Hearths (fireplaces) and woodstoves are also a source of area emissions; however, the project would not include hearths or woodstoves. Consumer products are chemically formulated products used by household and institutional consumers, including, but not limited to, detergents, cleaning compounds, polishes, floor finishes, disinfectants, sanitizers, and aerosol paints but not including other paint products, furniture coatings, or architectural coatings. Emissions due to consumer products are calculated using total building area and product emission factors.

For architectural coatings, emissions result from evaporation of solvents contained in surface coatings such as in paints and primers. Emissions are based on the building surface area, architectural

coating emission factors, and a reapplication rate of 10 percent of area per year. Landscaping maintenance includes fuel combustion emission from equipment such as lawn mowers, rototillers, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers as well as air compressors, generators, and pumps. Emission calculations take into account building area, equipment emission factors, and the number of operational days (summer days).

6.2.4 Total Operational Emissions

Table 5 provides a summary of the operational emissions generated by the project. CalEEMod output files for project operation are contained in Attachment 1. As shown, project-generated emissions are projected to be less than the screening level thresholds for all criteria pollutants.

Table 5
Summary of Project Operational Emissions
(pounds per day)

Source	Pollutant					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Mobile Sources	1	1	9	<1	2	<1
Area Sources	3	<1	3	<1	<1	<1
Energy Sources	<1	<1	<1	<1	<1	<1
Total	**4**	**1**	**11**	**<1**	**2**	**<1**
Significance Threshold	*250*	*250*	*550*	*250*	*100*	*67*
NOTE: Totals may vary due to independent rounding.						

6.3 Impact Analysis

1. Would the project obstruct or conflict with the implementation of the San Diego RAQS?

The RAQS is the applicable regional air quality plan that sets forth the SDAPCD's strategies for achieving the NAAQS and CAAQS. The SDAB is designated non-attainment for the federal and state ozone standards. Accordingly, the RAQS was developed to identify feasible emission control measures and provide expeditious progress toward attaining the standards for ozone. The two pollutants addressed in the RAQS are ROG and NO_X, which are precursors to the formation of ozone. Projected increases in motor vehicle usage, population, and growth create challenges in controlling emissions and by extension to maintaining and improving air quality. The RAQS was most recently updated in 2022.

The growth projections used by the SDAPCD to develop the RAQS emissions budgets are based on the population, vehicle trends, and land use plans developed in general plans and used by SANDAG in the development of the regional transportation plans and sustainable communities strategy. As such, projects that propose development that is consistent with the growth anticipated by SANDAG's growth projections and/or the general plan would not conflict with the RAQS. In the event that a project would propose development that is less dense than anticipated by the growth projections, the project would likewise be consistent with the RAQS. In the event a project proposes development that is greater than anticipated in the growth projections, further analysis would be warranted to

determine if the project would exceed the growth projections used in the RAQS for the specific subregional area.

As discussed in Section 2.0, the approved project included a GPA to change the land uses of APNs 217-161-18 and 217-161-19 from Commercial (C) and Light Industrial (L-I) to Medium Density Residential 2 (MDR2). The approved MND found that even with this GPA, the approved project would not conflict with implementation of the 2016 RAQS. The 2022 RAQS was adopted in March 2023 after approval of the MND; therefore, the land uses considered in the 2022 RAQS are Commercial (C) and Light Industrial (L-I). As analyzed in the MND, these land use designations would allow for the construction of approximately 38,000 square feet of light industrial development and 24,000 square feet of commercial development based on the floor area ratios established in Title 20–Zoning of the City's Municipal Code. Additionally, the project also includes 0.37 acres of APN 217-161-1700 which would be redesignated from Commercial (C) to Medium High Density Residential (MHDR). The additional parcel is currently developed with a 2,200-square-foot liquor store that would remain in operation.

In order to determine if emissions associated with the project are accounted for in the growth projections assumed in the 2022 RAQS, emissions due to operation of a project consistent with the land use and zoning designations assumed in the 2022 RAQS (prior to MND adoption) were calculated and compared to emissions associated with operation of the project. Emissions were calculated for 38,000 square feet of light industrial development, 24,000 square feet of commercial development, and the existing 2,200 square foot convenience market. Emissions were modeled using the CalEEMod default trip generations rates. Table 6 summarizes the emissions associated with industrial, commercial, and convenience market land uses along with the emissions associated with the project. The CalEEMod output files for the project are contained in Attachment 1, and the CalEEMod output files for the industrial and commercial project are contained in Attachment 2.

Table 6
Commercial and Industrial Land Use Operational Emissions
(pounds per day)

Source	Pollutant					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
PROJECT EMISSIONS						
Mobile Sources	1	1	9	<1	2	<1
Area Sources	3	<1	3	<1	<1	<1
Energy Sources	<1	<1	<1	<1	<1	<1
Total	**4**	**1**	**11**	**<1**	**2**	**<1**
INDUSTRIAL, COMMERCIAL, AND CONVENIENCE MARKET EMISSIONS						
Mobile Sources	14	11	106	<1	23	6
Area Sources	2	<1	3	<1	<1	<1
Energy Sources	<1	<1	<1	<1	<1	<1
Total	**16**	**11**	**109**	**<1**	**23**	**6**
NOTE: Totals may vary due to independent rounding.						

As shown, project emissions would be less than operational emissions associated with an industrial, commercial, and convenience market project that is consistent with the land use assumptions used

in the 2022 RAQS. Therefore, the project would not result in an increase in emissions that are not already accounted for in the 2022 RAQS.

Additionally, shown in Tables 4 and 5, project emissions would not exceed the screening level thresholds. Therefore, the project would not result in an increase in emissions that are not already accounted for in the RAQS. The project would not obstruct or conflict with implementation of the RAQS, and impacts would be less than significant.

2. *Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?*

The region is classified as an attainment area for all criterion pollutants except ozone, PM_{10}, and $PM_{2.5}$. The SDAB is a non-attainment area for the 8-hour federal and state ozone standards. Ozone is not emitted directly, but is a result of atmospheric activity on precursors. NO_X and ROG are known as the chief "precursors" of ozone. These compounds react in the presence of sunlight to produce ozone. $PM_{2.5}$ includes fine particles that are found in smoke and haze and are emitted from all types of combustion activities (motor vehicles, power plants, wood burning, etc.) and certain industrial processes. PM_{10} includes both fine and coarse dust particles, and sources include crushing or grinding operations and dust from paved or unpaved roads.

As shown in Table 4, project construction would not exceed the applicable regional emissions thresholds. These thresholds are designed to provide limits below which project emissions would not significantly change regional air quality. Therefore, as project construction emissions would be below these limits, project construction would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$, and impacts would be less than significant.

Long-term emissions of regional air pollutants occur from operational sources. As shown in Table 5, project operation would not exceed the applicable regional emissions thresholds. Therefore, as operational emissions would be below these limits, the project would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$, and impacts would be less than significant.

3. *Would the project expose sensitive receptors to substantial pollutant concentrations?*

Sensitive land uses include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities. The nearest sensitive receptors are the residential uses located 300 feet to the northeast, 100 feet to the southeast, 160 feet to the south, and 115 feet to the southwest.

Carbon Monoxide Hot Spots

Localized CO concentration is a direct function of motor vehicle activity at signalized intersections (e.g., idling time and traffic flow conditions), particularly during peak commute hours and meteorological conditions. The SDAB is a CO maintenance area under the federal CAA. This means that SDAB was previously a non-attainment area and is currently implementing a 10-year plan for continuing to meet and maintain air quality standards.

Due to increased requirements for cleaner vehicles, equipment, and fuels, CO levels in the state have dropped substantially. All air basins are attainment or maintenance areas for CO. Therefore, more recent screening procedures based on more current methodologies have been developed. The Bay Area Air Quality Management District developed a screening threshold in their 2022 CEQA Guidelines (Bay Area Air Quality Management District 2022). These screening criteria are considered applicable in the SDAB because the San Francisco Bay Air Basin and the SDAB have the same CO maintenance designations, and the vehicle classifications in the regions are similar. If the following screening criteria are met, operation of a project would result in less than significant impacts related to CO:

- The project is consistent with an applicable congestion management program established by the County of San Diego congestion management agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.

- Project-generated traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.

- Project-generated traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

As discussed, the project would generate 368 daily trips. Based on the Local Transportation Analysis (Linscott, Law and Greenspan, Engineers 2026), peak hour turning volumes at the study area intersections would be well less than 44,000 vehicles per hour. Additionally, all signalized intersections are projected to operate at an acceptable level of service. Therefore, the project is not anticipated to result in a CO hot spot.

Diesel Particulate Matter – Construction

Construction of the project and associated infrastructure would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. Construction of the project would result in the generation of diesel-exhaust DPM emissions from the use of off-road diesel equipment required for site grading and excavation, paving, and other construction activities and on-road diesel equipment used to bring materials to and from the project site.

Generation of DPM from construction projects typically occurs in a single area for a short period. Construction is anticipated to last for approximately one year. The dose to which the receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance or substances in the environment and the extent of exposure that person has with the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the Maximally Exposed Individual. The risks estimated for a Maximally Exposed Individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to toxic emissions, should be based on a 30-year exposure period; however, such assessments should be limited to the period/duration of activities

associated with the project (Office of Environmental Health Hazard Assessment 2015). Thus, if the duration of proposed construction activities near any specific sensitive receptor were one year, the exposure would be 3 percent of the total 30-year exposure period used for health risk calculation. Further, the project would implement construction best management practices and would be conducted in accordance with CARB regulations. Specifically, the project would implement the following Best Available Control Technology for Toxics measures during construction:

- The construction fleet shall use any combination of diesel catalytic converters, diesel oxidation catalysts, diesel particulate filters and/or utilize CARB/U.S. EPA Engine Certification Tier 3 or better, or other equivalent methods approved by the CARB.
- The engine size of construction equipment shall be the minimum size suitable for the required job.
- Construction equipment shall be properly tuned and maintained in accordance with the manufacturer's specifications.
- Per CARB's Airborne Toxic Control Measures 13 (California Code of Regulations Chapter 10 Section 2485), the applicant shall not allow idling time to exceed 5 minutes unless more time is required per engine manufacturers' specifications or for safety reasons.

Therefore, DPM generated by project construction is not expected to create conditions where the probability is greater than 10 in 1 million of contracting cancer for the Maximally Exposed Individual or to generate ground-level concentrations of noncarcinogenic TACs that exceed a Hazard Index greater than 1 for the Maximally Exposed Individual. Additionally, with ongoing implementation of U.S. EPA and CARB requirements for cleaner fuels; off-road diesel engine retrofits; and new, low-emission diesel engine types, the DPM emissions of individual equipment would be substantially reduced. Therefore, project construction would not expose sensitive receptors to substantial pollutant concentration.

Stationary Sources

CARB provides guidance on siting land uses near major emitters or facilities of concern. These facilities include distribution centers, chrome platers, dry cleaners using perchloroethylene, and large gas stations. CARB siting constraints are summarized in Table 7.

The project would not include any of the sources included in Table 7. The project would not construct a stationary source of toxic emissions.

Table 7 CARB Land Use Siting Constraints	
Source Category	Recommended Buffer Distances (feet)
Distribution centers (that accommodate more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week)	1,000
Chrome platers	1,000
Dry cleaners using perchloroethylene (1 machine)	300
Dry cleaners using perchloroethylene (2 machines)	500
Dry cleaners using perchloroethylene (3 or more machines)	Requires consultation with APCD
Large gas station (3.6 million gallons or more per year)	300
Other gas stations	50
SOURCE: CARB 2005.	

4. *Would the project result in other emissions such as those leading to odors adversely affecting a substantial number of people?*

The project does not include heavy industrial or agricultural uses that are typically associated with odor complaints. During construction, diesel equipment may generate some nuisance odors. However, exposure to odors associated with project construction would be short term and temporary in nature. Impacts associated with odors would be less than significant.

7.0 Conclusions

The primary goal of the RAQS is to reduce ozone precursor emissions. The project would require a GPA to Medium High Density Residential (MHDR); however, as calculated in this analysis, project emissions would be less than operational emissions associated with an industrial, commercial, and convenience market project that is consistent with the land use assumptions used in the 2022 RAQS. Therefore, the project would not result in an increase in emissions that are not already accounted for in the RAQS. Thus, it can be concluded that the project would not obstruct or conflict with the implementation of the RAQS.

As shown in Table 4, project construction emissions would not exceed the applicable regional emissions thresholds. These thresholds are designed to provide limits below which project emissions would not significantly change regional air quality. Therefore, as project construction emissions would be below these limits, project construction would not result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$, and impacts would be less than significant. Additionally, construction emissions would be temporary, intermittent, and would cease at the end of project construction.

Long-term emissions of regional air pollutants occur from operational sources. As shown in Table 5, project operational emissions would not exceed the applicable regional emissions thresholds. Therefore, as project operational emissions would be below these limits, project operation would not

result in a cumulatively considerable net increase in emissions of ozone, PM_{10}, or $PM_{2.5}$, and impacts would be less than significant.

Sensitive land uses include schools and schoolyards, parks and playgrounds, daycare centers, nursing homes, hospitals, and residential communities. The nearest sensitive receptors are the residential uses located 300 feet to the northeast, 100 feet to the southeast, 160 feet to the south, and 115 feet to the southwest. The project is not anticipated to result in a CO hot spot at project area intersections. Construction of the project and associated infrastructure would result in short-term diesel exhaust emissions from on-site heavy-duty equipment. However, given the temporary nature of construction activities and implementation of Best Available Control Technology for Toxics measures, the project would not result in the exposure of sensitive receptors to substantial pollutant concentrations during construction.

The project does not include heavy industrial or agricultural uses that are typically associated with objectionable odors. The project would involve the use of diesel-powered construction equipment. Diesel exhaust may be noticeable temporarily at adjacent properties; however, construction activities would be temporary. Therefore, odor impacts would be less than significant.

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ATTACHMENTS

ATTACHMENT 1

CalEEMod Output – Project Emissions

South Santa Fe Townhomes Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	South Santa Fe Townhomes
Construction Start Date	1/1/2026
Operational Year	2027
Lead Agency	City of San Marcos
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.2
Precipitation (days)	19
Location	2982 S Santa Fe Ave, San Marcos, CA 92069, USA
County	San Diego
City	San Marcos
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6276
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.35

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
Apartments Mid Rise	46	Dwelling Unit	2.7	100,000	38,759	—	128	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.6	1.3	10	13	0.02	0.36	0.31	0.67	0.33	0.07	0.41	—	2,630	2,630	0.11	0.05	1.4	2,647
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	63	63	23	18	0.07	0.72	4.8	5.5	0.62	1.9	2.5	—	9,911	9,911	0.47	1.2	0.41	10,283
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.6	1.4	8.0	9.4	0.02	0.28	0.51	0.79	0.25	0.17	0.42	—	2,290	2,290	0.10	0.11	0.81	2,325
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.30	0.26	1.5	1.7	< 0.005	0.05	0.09	0.14	0.05	0.03	0.08	—	379	379	0.02	0.02	0.13	385
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250	250	550	250	—	—	100	—	—	67	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Threshold	—	250	250	550	250	—	—	100	—	—	67	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

2.2. Construction Emissions by Year, Unmitigated

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

Year	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily - Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.6	1.3	10	13	0.02	0.36	0.31	0.67	0.33	0.07	0.41	—	2,630	2,630	0.11	0.05	1.4	2,647
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	63	63	23	18	0.07	0.72	4.8	5.5	0.62	1.9	2.5	—	9,911	9,911	0.47	1.2	0.41	10,283
2027	63	63	0.85	1.4	< 0.005	0.02	0.06	0.08	0.02	0.01	0.03	—	191	191	0.01	< 0.005	0.01	192
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	1.6	1.4	8.0	9.4	0.02	0.28	0.51	0.79	0.25	0.17	0.42	—	2,290	2,290	0.10	0.11	0.81	2,325
2027	0.98	0.98	0.01	0.02	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	3.0	3.0	< 0.005	< 0.005	< 0.005	3.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2026	0.30	0.26	1.5	1.7	< 0.005	0.05	0.09	0.14	0.05	0.03	0.08	—	379	379	0.02	0.02	0.13	385
2027	0.18	0.18	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.50	0.50	< 0.005	< 0.005	< 0.005	0.50

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	4.0	3.9	0.93	11	0.02	0.02	1.8	1.8	0.02	0.46	0.48	21	2,212	2,233	2.3	0.09	7.0	2,324

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.8	3.6	0.99	8.3	0.02	0.02	1.8	1.8	0.02	0.46	0.48	21	2,113	2,135	2.3	0.10	0.88	2,221
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.8	3.7	0.94	9.2	0.02	0.02	1.7	1.7	0.02	0.43	0.45	21	2,032	2,054	2.3	0.09	3.3	2,141
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.69	0.67	0.17	1.7	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	3.5	336	340	0.38	0.02	0.55	355
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250	250	550	250	—	—	100	—	—	67	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250	250	550	250	—	—	100	—	—	67	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	500
Unmit.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	No

2.5. Operations Emissions by Sector, Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.5	1.4	0.82	8.7	0.02	0.02	1.8	1.8	0.01	0.46	0.47	—	2,079	2,079	0.10	0.08	6.3	2,113
Area	2.6	2.5	0.02	2.6	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	7.0	7.0	< 0.005	< 0.005	—	7.0
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	124	124	0.02	< 0.005	—	125
Water	—	—	—	—	—	—	—	—	—	—	—	3.1	1.8	4.9	0.32	0.01	—	15
Waste	—	—	—	—	—	—	—	—	—	—	—	18	0.00	18	1.8	0.00	—	64
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.72	0.72
Total	4.0	3.9	0.93	11	0.02	0.02	1.8	1.8	0.02	0.46	0.48	21	2,212	2,233	2.3	0.09	7.0	2,324
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.4	1.3	0.91	8.3	0.02	0.02	1.8	1.8	0.01	0.46	0.47	—	1,988	1,988	0.11	0.09	0.16	2,017
Area	2.3	2.3	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	124	124	0.02	< 0.005	—	125
Water	—	—	—	—	—	—	—	—	—	—	—	3.1	1.8	4.9	0.32	0.01	—	15
Waste	—	—	—	—	—	—	—	—	—	—	—	18	0.00	18	1.8	0.00	—	64
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.72	0.72
Total	3.8	3.6	0.99	8.3	0.02	0.02	1.8	1.8	0.02	0.46	0.48	21	2,113	2,135	2.3	0.10	0.88	2,221
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	1.3	1.2	0.85	7.8	0.02	0.01	1.7	1.7	0.01	0.43	0.44	—	1,904	1,904	0.10	0.08	2.6	1,933
Area	2.4	2.4	0.01	1.3	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	3.4	3.4	< 0.005	< 0.005	—	3.5
Energy	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	124	124	0.02	< 0.005	—	125
Water	—	—	—	—	—	—	—	—	—	—	—	3.1	1.8	4.9	0.32	0.01	—	15
Waste	—	—	—	—	—	—	—	—	—	—	—	18	0.00	18	1.8	0.00	—	64
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.72	0.72
Total	3.8	3.7	0.94	9.2	0.02	0.02	1.7	1.7	0.02	0.43	0.45	21	2,032	2,054	2.3	0.09	3.3	2,141
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Mobile	0.25	0.23	0.15	1.4	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	315	315	0.02	0.01	0.43	320
Area	0.44	0.44	< 0.005	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.57	0.57	< 0.005	< 0.005	—	0.57
Energy	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	20	20	< 0.005	< 0.005	—	21
Water	—	—	—	—	—	—	—	—	—	—	—	0.51	0.30	0.81	0.05	< 0.005	—	2.5
Waste	—	—	—	—	—	—	—	—	—	—	—	3.0	0.00	3.0	0.30	0.00	—	11
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	0.69	0.67	0.17	1.7	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	3.5	336	340	0.38	0.02	0.55	355

3. Construction Emissions Details

3.1. 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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.3	1.1	9.8	11	0.03	0.42	—	0.42	0.39	—	0.39	—	2,716	2,716	0.11	0.02	—	2,725
Dust From Material Movement	—	—	—	—	—	—	0.62	0.62	—	0.07	0.07	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	0.01	0.01	0.08	0.09	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22	22	< 0.005	< 0.005	—	22
Dust From Material Movement	—	—	—	—	—	—	0.01	0.01	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Roa d Equipm ent	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	3.7	3.7	< 0.005	< 0.005	—	3.7
Dust From Material Movement	—	—	—	—	—	—	< 0.005	< 0.005	—	< 0.005	< 0.005	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.03	0.02	0.29	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	66	66	< 0.005	< 0.005	0.01	67
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.55	0.55	< 0.005	< 0.005	< 0.005	0.55
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.09	0.09	< 0.005	< 0.005	< 0.005	0.09
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.3. Grading (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.7	1.4	13	14	0.02	0.58	—	0.58	0.53	—	0.53	—	2,455	2,455	0.10	0.02	—	2,463
Dust From Material Movement	—	—	—	—	—	—	2.8	2.8	—	1.3	1.3	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.85	0.92	< 0.005	0.04	—	0.04	0.04	—	0.04	—	161	161	0.01	< 0.005	—	162
Dust From Material Movement	—	—	—	—	—	—	0.18	0.18	—	0.09	0.09	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.15	0.17	< 0.005	0.01	—	0.01	0.01	—	0.01	—	27	27	< 0.005	< 0.005	—	27
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	0.02	0.02	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.04	0.04	0.03	0.38	0.00	0.00	0.08	0.08	0.00	0.02	0.02	—	88	88	< 0.005	< 0.005	0.01	89
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.53	0.15	9.8	3.7	0.05	0.14	1.9	2.1	0.09	0.53	0.62	—	7,368	7,368	0.37	1.2	0.40	7,730
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	5.8	5.8	< 0.005	< 0.005	0.01	5.9
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.04	0.01	0.64	0.24	< 0.005	0.01	0.13	0.14	0.01	0.03	0.04	—	484	484	0.02	0.08	0.44	509
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.96	0.96	< 0.005	< 0.005	< 0.005	0.98
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.01	< 0.005	0.12	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	80	80	< 0.005	0.01	0.07	84

3.5. Building Construction (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.4	1.2	10	12	0.02	0.36	—	0.36	0.33	—	0.33	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.4	1.2	10	12	0.02	0.36	—	0.36	0.33	—	0.33	—	2,201	2,201	0.09	0.02	—	2,208
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.85	0.71	6.1	7.1	0.01	0.22	—	0.22	0.20	—	0.20	—	1,327	1,327	0.05	0.01	—	1,331
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.16	0.13	1.1	1.3	< 0.005	0.04	—	0.04	0.04	—	0.04	—	220	220	0.01	< 0.005	—	220

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.14	0.12	0.09	1.4	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	308	308	0.01	0.01	1.1	313
Vendor	0.01	< 0.005	0.16	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	< 0.005	0.02	0.29	126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.13	0.12	0.10	1.3	0.00	0.00	0.28	0.28	0.00	0.07	0.07	—	291	291	0.02	0.01	0.03	295
Vendor	0.01	< 0.005	0.16	0.07	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	121	121	< 0.005	0.02	0.01	126
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.08	0.07	0.06	0.77	0.00	0.00	0.17	0.17	0.00	0.04	0.04	—	177	177	0.01	0.01	0.28	179
Vendor	0.01	< 0.005	0.10	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	73	73	< 0.005	0.01	0.08	76
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.14	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	29	29	< 0.005	< 0.005	0.05	30
Vendor	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	12	12	< 0.005	< 0.005	0.01	13
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Paving (2026) - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.79	0.67	5.9	8.2	0.01	0.25	—	0.25	0.23	—	0.23	—	1,244	1,244	0.05	0.01	—	1,248
Paving	0.21	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.16	0.22	< 0.005	0.01	—	0.01	0.01	—	0.01	—	34	34	< 0.005	< 0.005	—	34
Paving	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.6	5.6	< 0.005	< 0.005	—	5.7
Paving	< 0.005	< 0.005	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.05	0.57	0.00	0.00	0.13	0.13	0.00	0.03	0.03	—	132	132	0.01	0.01	0.01	133
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.6	3.6	< 0.005	< 0.005	0.01	3.7
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.60	0.60	< 0.005	< 0.005	< 0.005	0.61
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Architectural Coating (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.15	0.12	0.86	1.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134

Architectural Coating	63	63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.0	1.0	< 0.005	< 0.005	—	1.0
Architectural Coatings	0.49	0.49	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.17	0.17	< 0.005	< 0.005	—	0.17
Architectural Coatings	0.09	0.09	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.25	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	58	58	< 0.005	< 0.005	0.01	59
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.46	0.46	< 0.005	< 0.005	< 0.005	0.47
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.08	0.08	< 0.005	< 0.005	< 0.005	0.08
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Architectural Coating (2027) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.14	0.11	0.83	1.1	< 0.005	0.02	—	0.02	0.02	—	0.02	—	134	134	0.01	< 0.005	—	134
Architectural Coatings	63	63	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Roa Equipment	< 0.005	< 0.005	0.01	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.1	2.1	< 0.005	< 0.005	—	2.1
Architectural Coatings	0.98	0.98	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.35	0.35	< 0.005	< 0.005	—	0.35
Architectural Coatings	0.18	0.18	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.03	0.02	0.02	0.24	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	57	57	< 0.005	< 0.005	0.01	58
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.90	0.90	< 0.005	< 0.005	< 0.005	0.92
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	< 0.005	< 0.005	< 0.005	< 0.005	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	0.15	0.15	< 0.005	< 0.005	< 0.005	0.15
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.5	1.4	0.82	8.7	0.02	0.02	1.8	1.8	0.01	0.46	0.47	—	2,079	2,079	0.10	0.08	6.3	2,113
Total	1.5	1.4	0.82	8.7	0.02	0.02	1.8	1.8	0.01	0.46	0.47	—	2,079	2,079	0.10	0.08	6.3	2,113
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	1.4	1.3	0.91	8.3	0.02	0.02	1.8	1.8	0.01	0.46	0.47	—	1,988	1,988	0.11	0.09	0.16	2,017
Total	1.4	1.3	0.91	8.3	0.02	0.02	1.8	1.8	0.01	0.46	0.47	—	1,988	1,988	0.11	0.09	0.16	2,017
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.25	0.23	0.15	1.4	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	315	315	0.02	0.01	0.43	320
Total	0.25	0.23	0.15	1.4	< 0.005	< 0.005	0.31	0.31	< 0.005	0.08	0.08	—	315	315	0.02	0.01	0.43	320

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	19	19	0.01	< 0.005	—	20
Total	—	—	—	—	—	—	—	—	—	—	—	—	19	19	0.01	< 0.005	—	20
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	19	19	0.01	< 0.005	—	20
Total	—	—	—	—	—	—	—	—	—	—	—	—	19	19	0.01	< 0.005	—	20
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	3.2	3.2	< 0.005	< 0.005	—	3.3
Total	—	—	—	—	—	—	—	—	—	—	—	—	3.2	3.2	< 0.005	< 0.005	—	3.3

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

Apartme Mid Rise	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	104	104	0.01	< 0.005	—	105
Total	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	104	104	0.01	< 0.005	—	105
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	104	104	0.01	< 0.005	—	105
Total	0.01	< 0.005	0.08	0.03	< 0.005	0.01	—	0.01	0.01	—	0.01	—	104	104	0.01	< 0.005	—	105
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17	17	< 0.005	< 0.005	—	17
Total	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	17	17	< 0.005	< 0.005	—	17

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	2.1	2.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Landscape	0.24	0.23	0.02	2.6	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	7.0	7.0	< 0.005	< 0.005	—	7.0
Total	2.6	2.5	0.02	2.6	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	7.0	7.0	< 0.005	< 0.005	—	7.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	2.1	2.1	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.17	0.17	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	2.3	2.3	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00
Consumer Products	0.39	0.39	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.03	0.03	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.02	0.02	< 0.005	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.57	0.57	< 0.005	< 0.005	—	0.57
Total	0.44	0.44	< 0.005	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	0.00	0.57	0.57	< 0.005	< 0.005	—	0.57

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	3.1	1.8	4.9	0.32	0.01	—	15
Total	—	—	—	—	—	—	—	—	—	—	—	3.1	1.8	4.9	0.32	0.01	—	15
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	3.1	1.8	4.9	0.32	0.01	—	15
Total	—	—	—	—	—	—	—	—	—	—	—	3.1	1.8	4.9	0.32	0.01	—	15
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	0.51	0.30	0.81	0.05	< 0.005	—	2.5
Total	—	—	—	—	—	—	—	—	—	—	—	0.51	0.30	0.81	0.05	< 0.005	—	2.5

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

Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	18	0.00	18	1.8	0.00	—	64
Total	—	—	—	—	—	—	—	—	—	—	—	18	0.00	18	1.8	0.00	—	64
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	18	0.00	18	1.8	0.00	—	64
Total	—	—	—	—	—	—	—	—	—	—	—	18	0.00	18	1.8	0.00	—	64
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	3.0	0.00	3.0	0.30	0.00	—	11
Total	—	—	—	—	—	—	—	—	—	—	—	3.0	0.00	3.0	0.30	0.00	—	11

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.72	0.72
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.72	0.72
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Apartments	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.72	0.72
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.72	0.72
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Apartments Mid Rise	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.12	0.12

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

Remove	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Subtotal	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	1/1/2026	1/5/2026	5.0	3.0	—
Grading	Grading	1/6/2026	2/6/2026	5.0	24	—
Building Construction	Building Construction	2/9/2026	12/11/2026	5.0	220	—
Paving	Paving	12/14/2026	12/25/2026	5.0	10.0	—
Architectural Coating	Architectural Coating	12/28/2026	1/8/2027	5.0	10.0	—

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
Site Preparation	Graders	Diesel	Average	1.00	8.0	148	0.41
Site Preparation	Scrapers	Diesel	Average	1.00	8.0	423	0.48
Site Preparation	Tractors/Loaders/Backhoes	Diesel	Average	1.00	7.0	84	0.37
Grading	Graders	Diesel	Average	1.00	8.0	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.0	367	0.40
Grading	Tractors/Loaders/Backhoes	Diesel	Average	2.0	7.0	84	0.37
Building Construction	Cranes	Diesel	Average	1.00	8.0	367	0.29
Building Construction	Forklifts	Diesel	Average	2.0	7.0	82	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.0	14	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	1.00	6.0	84	0.37
Building Construction	Welders	Diesel	Average	3.0	8.0	46	0.45
Paving	Cement and Mortar Mixers	Diesel	Average	1.00	8.0	10.0	0.56
Paving	Pavers	Diesel	Average	1.00	8.0	81	0.42
Paving	Paving Equipment	Diesel	Average	1.00	8.0	89	0.36
Paving	Rollers	Diesel	Average	2.0	8.0	36	0.38
Paving	Tractors/Loaders/Backhoes	Diesel	Average	1.00	8.0	84	0.37
Architectural Coating	Air Compressors	Diesel	Average	1.00	6.0	37	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	Worker	7.5	12	LDA,LDT1,LDT2
Site Preparation	Vendor	—	7.6	HHDT,MHDT
Site Preparation	Hauling	0.00	20	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	Worker	10.0	12	LDA,LDT1,LDT2
Grading	Vendor	—	7.6	HHDT,MHDT
Grading	Hauling	105	20	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	Worker	33	12	LDA,LDT1,LDT2
Building Construction	Vendor	4.9	7.6	HHDT,MHDT
Building Construction	Hauling	0.00	20	HHDT
Building Construction	Onsite truck	—	—	HHDT

Paving	Worker	15	12	LDA,LDT1,LDT2
Paving	Vendor	—	7.6	HHDT,MHDT
Paving	Hauling	0.00	20	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	Worker	6.6	12	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	7.6	HHDT,MHDT
Architectural Coating	Hauling	0.00	20	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	202,500	67,500	0.00	0.00	—

5.6. Dust Mitigation

5.6.1. Construction Earthmoving Activities

Phase Name	Material Imported (cy)	Material Exported (cy)	Acres Graded (acres)	Material Demolished (sq. ft.)	Acres Paved (acres)
Site Preparation	—	—	4.5	0.00	0.00
Grading	—	20,100	24	0.00	0.00
Paving	0.00	0.00	0.00	0.00	0.82

5.6.2. Construction Earthmoving Control Strategies

Control Strategies Applied	Frequency (per day)	PM10 Reduction	PM2.5 Reduction

Water Exposed Area	2	61%	61%

5.7. Construction Paving

Phase Name	Land Use	Area Paved (acres)	% Asphalt
Paving	Apartments Mid Rise	0.82	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2026	0.00	589	0.03	< 0.005
2027	0.00	589	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
Apartments Mid Rise	368	332	278	127,748	2,548	2,300	1,924	884,547

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
Apartments Mid Rise	Wood Fireplaces	0	0
Apartments Mid Rise	Gas Fireplaces	0	0
Apartments Mid Rise	Propane Fireplaces	0	0
Apartments Mid Rise	Electric Fireplaces	0	0
Apartments Mid Rise	No Fireplaces	46	46

Apartments Mid Rise	Conventional Wood Stoves	0	0
Apartments Mid Rise	Catalytic Wood Stoves	0	0
Apartments Mid Rise	Non-Catalytic Wood Stoves	0	0
Apartments Mid Rise	Pellet Wood Stoves	0	0

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)
undefined	202,500	67,500	0.00	0.00	—

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)
Apartments Mid Rise	155,980	45	0.0330	0.0040	325,608

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Apartments Mid Rise	1,616,121	707,937

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Apartments Mid Rise	34	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Apartments Mid Rise	Average room A/C & Other residential A/C and heat pumps	R-410A	2,088	< 0.005	2.5	2.5	10.0
Apartments Mid Rise	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00

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

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	11	annual days of extreme heat
Extreme Precipitation	4.0	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.4	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	38
AQ-PM	28
AQ-DPM	62
Drinking Water	30
Lead Risk Housing	49
Pesticides	54
Toxic Releases	32
Traffic	41
Effect Indicators	—
CleanUp Sites	62
Groundwater	38
Haz Waste Facilities/Generators	64
Impaired Water Bodies	90
Solid Waste	85

Sensitive Population	—
Asthma	4.2
Cardio-vascular	13
Low Birth Weights	65
Socioeconomic Factor Indicators	—
Education	83
Housing	70
Linguistic	90
Poverty	92
Unemployment	5.6

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	23.27730014
Employed	43.12844861
Median HI	34.33850892
Education	—
Bachelor's or higher	15.47542666
High school enrollment	19.24804312
Preschool enrollment	29.86013089
Transportation	—
Auto Access	98.98626973
Active commuting	49.33915052
Social	—
2-parent households	34.54382138
Voting	48.659053

Neighborhood	—
Alcohol availability	44.5528038
Park access	10.72757603
Retail density	39.86911331
Supermarket access	47.37585012
Tree canopy	21.32683177
Housing	—
Homeownership	33.61991531
Housing habitability	43.23110484
Low-inc homeowner severe housing cost burden	29.79597074
Low-inc renter severe housing cost burden	63.30039779
Uncrowded housing	33.53009111
Health Outcomes	—
Insured adults	4.157577313
Arthritis	64.8
Asthma ER Admissions	96.3
High Blood Pressure	83.5
Cancer (excluding skin)	80.0
Asthma	25.7
Coronary Heart Disease	57.7
Chronic Obstructive Pulmonary Disease	27.0
Diagnosed Diabetes	38.1
Life Expectancy at Birth	31.7
Cognitively Disabled	44.8
Physically Disabled	80.2
Heart Attack ER Admissions	96.4
Mental Health Not Good	16.4
Chronic Kidney Disease	45.1

Obesity	26.2
Pedestrian Injuries	42.6
Physical Health Not Good	25.9
Stroke	51.7
Health Risk Behaviors	—
Binge Drinking	22.7
Current Smoker	18.8
No Leisure Time for Physical Activity	21.7
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	16.3
Elderly	90.0
English Speaking	5.3
Foreign-born	72.2
Outdoor Workers	23.3
Climate Change Adaptive Capacity	—
Impervious Surface Cover	45.9
Traffic Density	80.5
Traffic Access	23.0
Other Indices	—
Hardship	65.3
Other Decision Support	—
2016 Voting	53.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	60

Healthy Places Index Score for Project Location (b)	27
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

8.1. Justifications

Screen	Justification
Land Use	46 units 2.72 acres 38,759 sf landscaping
Construction: Construction Phases	No demo. Grading anticipated over one month period. All other default phasing modeled.
Construction: Paving	35,778 sf paved (0.82 acres)
Operations: Vehicle Data	8 weekday trips/unit Weekend trips adjusted proportionately
Operations: Hearths	No fireplaces or wood stoves.

ATTACHMENT 2

CalEEMod Output – Industrial, Commercial, and Convenience Market Project Emissions

South Santa Fe Townhomes - Existing Designations Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	South Santa Fe Townhomes - Existing Designations
Operational Year	2027
Lead Agency	City of San Marcos
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.2
Precipitation (days)	19
Location	2982 S Santa Fe Ave, San Marcos, CA 92069, USA
County	San Diego
City	San Marcos
Air District	San Diego County APCD
Air Basin	San Diego
TAZ	6276
EDFZ	12
Electric Utility	San Diego Gas & Electric
Gas Utility	San Diego Gas & Electric
App Version	2022.1.1.35

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
General Light Industry	38	1000sqft	1.5	38,000	0.00	—	—	—
Strip Mall	24	1000sqft	0.80	24,000	0.00	—	—	—

Convenience Market (24 hour)	2.2	1000sqft	0.63	2,200	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.4. Operations Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	18	16	10	109	0.26	0.23	23	23	0.22	5.9	6.1	63	27,240	27,303	7.7	1.1	547	28,356
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	17	15	11	100	0.25	0.23	23	23	0.22	5.9	6.1	63	26,046	26,109	7.7	1.1	468	27,103
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	13	12	7.5	67	0.16	0.16	14	14	0.15	3.5	3.7	63	16,295	16,358	7.3	0.74	487	17,251
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.4	2.2	1.4	12	0.03	0.03	2.5	2.6	0.03	0.64	0.67	10	2,698	2,708	1.2	0.12	81	2,856
Exceeds (Daily Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250	250	550	250	—	—	100	—	—	67	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—

Exceeds (Average Daily)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	250	250	550	250	—	—	100	—	—	67	—	—	—	—	—	—	—
Unmit.	—	No	No	No	No	—	—	No	—	—	No	—	—	—	—	—	—	—
Exceeds (Annual)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Threshold	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	Yes

2.5. Operations Emissions by Sector, Unmitigated

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

Sector	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	16	14	9.9	106	0.26	0.20	23	23	0.18	5.9	6.1	—	26,605	26,605	1.2	0.99	81	27,012
Area	2.0	1.9	0.02	2.8	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11	11	< 0.005	< 0.005	—	12
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	614	614	0.10	0.01	—	619
Water	—	—	—	—	—	—	—	—	—	—	—	21	9.0	30	2.1	0.05	—	98
Waste	—	—	—	—	—	—	—	—	—	—	—	43	0.00	43	4.3	0.00	—	149
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	466	466
Total	18	16	10	109	0.26	0.23	23	23	0.22	5.9	6.1	63	27,240	27,303	7.7	1.1	547	28,356
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	15	14	11	99	0.25	0.20	23	23	0.18	5.9	6.1	—	25,423	25,423	1.3	1.1	2.1	25,771
Area	1.5	1.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	614	614	0.10	0.01	—	619

Water	—	—	—	—	—	—	—	—	—	—	—	21	9.0	30	2.1	0.05	—	98
Waste	—	—	—	—	—	—	—	—	—	—	—	43	0.00	43	4.3	0.00	—	149
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	466	466
Total	17	15	11	100	0.25	0.23	23	23	0.22	5.9	6.1	63	26,046	26,109	7.7	1.1	468	27,103
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	11	10	7.0	65	0.15	0.12	14	14	0.11	3.5	3.6	—	15,666	15,666	0.87	0.69	21	15,913
Area	1.7	1.7	0.01	1.4	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.7	5.7	< 0.005	< 0.005	—	5.7
Energy	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	614	614	0.10	0.01	—	619
Water	—	—	—	—	—	—	—	—	—	—	—	21	9.0	30	2.1	0.05	—	98
Waste	—	—	—	—	—	—	—	—	—	—	—	43	0.00	43	4.3	0.00	—	149
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	466	466
Total	13	12	7.5	67	0.16	0.16	14	14	0.15	3.5	3.7	63	16,295	16,358	7.3	0.74	487	17,251
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.1	1.9	1.3	12	0.03	0.02	2.5	2.6	0.02	0.64	0.66	—	2,594	2,594	0.14	0.11	3.5	2,635
Area	0.31	0.31	< 0.005	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.94	0.94	< 0.005	< 0.005	—	0.94
Energy	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	102	102	0.02	< 0.005	—	103
Water	—	—	—	—	—	—	—	—	—	—	—	3.4	1.5	4.9	0.35	0.01	—	16
Waste	—	—	—	—	—	—	—	—	—	—	—	7.0	0.00	7.0	0.70	0.00	—	25
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	77	77
Total	2.4	2.2	1.4	12	0.03	0.03	2.5	2.6	0.03	0.64	0.67	10	2,698	2,708	1.2	0.12	81	2,856

4. Operations Emissions Details

4.1. Mobile Emissions by Land Use

4.1.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.81	0.74	0.52	5.5	0.01	0.01	1.2	1.2	0.01	0.31	0.32	—	1,389	1,389	0.06	0.05	4.2	1,410
Strip Mall	4.5	4.2	2.9	31	0.08	0.06	6.8	6.8	0.05	1.7	1.8	—	7,777	7,777	0.35	0.29	24	7,896
Convenience Market (24 hour)	10	9.3	6.5	69	0.17	0.13	15	15	0.12	3.9	4.0	—	17,439	17,439	0.78	0.65	53	17,706
Total	16	14	9.9	106	0.26	0.20	23	23	0.18	5.9	6.1	—	26,605	26,605	1.2	0.99	81	27,012
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.80	0.73	0.57	5.2	0.01	0.01	1.2	1.2	0.01	0.31	0.32	—	1,327	1,327	0.07	0.06	0.11	1,346
Strip Mall	4.5	4.1	3.2	29	0.07	0.06	6.8	6.8	0.05	1.7	1.8	—	7,431	7,431	0.37	0.31	0.61	7,533
Convenience Market (24 hour)	10.0	9.1	7.1	65	0.16	0.13	15	15	0.12	3.9	4.0	—	16,664	16,664	0.83	0.69	1.4	16,892
Total	15	14	11	99	0.25	0.20	23	23	0.18	5.9	6.1	—	25,423	25,423	1.3	1.1	2.1	25,771
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.13	0.12	0.09	0.86	< 0.005	< 0.005	0.20	0.20	< 0.005	0.05	0.05	—	201	201	0.01	0.01	0.27	204
Strip Mall	0.74	0.67	0.52	4.8	0.01	0.01	1.1	1.1	0.01	0.28	0.29	—	1,134	1,134	0.06	0.05	1.5	1,151

Convenience Market (24 hour)	1.2	1.1	0.67	6.2	0.01	0.01	1.2	1.2	0.01	0.31	0.32	—	1,258	1,258	0.08	0.06	1.7	1,279
Total	2.1	1.9	1.3	12	0.03	0.02	2.5	2.6	0.02	0.64	0.66	—	2,594	2,594	0.14	0.11	3.5	2,635

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	42	42	0.03	< 0.005	—	44
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	26	26	0.02	< 0.005	—	27
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	8.3	8.3	0.01	< 0.005	—	8.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	77	77	0.06	0.01	—	80
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	42	42	0.03	< 0.005	—	44
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	26	26	0.02	< 0.005	—	27

Convenience	—	—	—	—	—	—	—	—	—	—	—	—	8.3	8.3	0.01	< 0.005	—	8.7
Total	—	—	—	—	—	—	—	—	—	—	—	—	77	77	0.06	0.01	—	80
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	7.0	7.0	0.01	< 0.005	—	7.3
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	4.3	4.3	< 0.005	< 0.005	—	4.5
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	1.4	1.4	< 0.005	< 0.005	—	1.4
Total	—	—	—	—	—	—	—	—	—	—	—	—	13	13	0.01	< 0.005	—	13

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.05	0.02	0.41	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	492	492	0.04	< 0.005	—	493
Strip Mall	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33	33	< 0.005	< 0.005	—	33
Convenience Market (24 hour)	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13	13	< 0.005	< 0.005	—	13
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	538	538	0.05	< 0.005	—	539
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

General Light Industry	0.05	0.02	0.41	0.35	< 0.005	0.03	—	0.03	0.03	—	0.03	—	492	492	0.04	< 0.005	—	493
Strip Mall	< 0.005	< 0.005	0.03	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	33	33	< 0.005	< 0.005	—	33
Convenience Market (24 hour)	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	13	13	< 0.005	< 0.005	—	13
Total	0.05	0.02	0.45	0.38	< 0.005	0.03	—	0.03	0.03	—	0.03	—	538	538	0.05	< 0.005	—	539
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	0.01	< 0.005	0.08	0.06	< 0.005	0.01	—	0.01	0.01	—	0.01	—	81	81	0.01	< 0.005	—	82
Strip Mall	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	5.5	5.5	< 0.005	< 0.005	—	5.5
Convenience Market (24 hour)	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.1	2.1	< 0.005	< 0.005	—	2.1
Total	0.01	< 0.005	0.08	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	89	89	0.01	< 0.005	—	89

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.4	1.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architectural	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.50	0.46	0.02	2.8	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11	11	< 0.005	< 0.005	—	12
Total	2.0	1.9	0.02	2.8	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	11	11	< 0.005	< 0.005	—	12
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	1.4	1.4	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.08	0.08	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	1.5	1.5	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	0.25	0.25	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.01	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.04	0.04	< 0.005	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.94	0.94	< 0.005	< 0.005	—	0.94
Total	0.31	0.31	< 0.005	0.25	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	0.94	0.94	< 0.005	< 0.005	—	0.94

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	17	7.4	24	1.7	0.04	—	80
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	3.4	1.5	4.9	0.35	0.01	—	16
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	0.31	0.14	0.45	0.03	< 0.005	—	1.5
Total	—	—	—	—	—	—	—	—	—	—	—	21	9.0	30	2.1	0.05	—	98
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	17	7.4	24	1.7	0.04	—	80
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	3.4	1.5	4.9	0.35	0.01	—	16
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	0.31	0.14	0.45	0.03	< 0.005	—	1.5
Total	—	—	—	—	—	—	—	—	—	—	—	21	9.0	30	2.1	0.05	—	98
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	2.8	1.2	4.0	0.29	0.01	—	13

Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.56	0.25	0.81	0.06	< 0.005	—	2.7
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	0.05	0.02	0.07	0.01	< 0.005	—	0.25
Total	—	—	—	—	—	—	—	—	—	—	—	3.4	1.5	4.9	0.35	0.01	—	16

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	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	25	0.00	25	2.5	0.00	—	89
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	48
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	3.6	0.00	3.6	0.36	0.00	—	12
Total	—	—	—	—	—	—	—	—	—	—	—	43	0.00	43	4.3	0.00	—	149
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	25	0.00	25	2.5	0.00	—	89
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	14	0.00	14	1.4	0.00	—	48

Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	3.6	0.00	3.6	0.36	0.00	—	12
Total	—	—	—	—	—	—	—	—	—	—	—	43	0.00	43	4.3	0.00	—	149
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	4.2	0.00	4.2	0.42	0.00	—	15
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.2	0.00	2.2	0.22	0.00	—	7.9
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	0.59	0.00	0.59	0.06	0.00	—	2.1
Total	—	—	—	—	—	—	—	—	—	—	—	7.0	0.00	7.0	0.70	0.00	—	25

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.9	9.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	456	456
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	466	466

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.9	9.9
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.15	0.15
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	456	456
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	466	466
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
General Light Industry	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.6	1.6
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Convenience Market (24 hour)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	76	76
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	77	77

4.7. Offroad Emissions By Equipment Type

4.7.1. Unmitigated

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

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

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

4.8. Stationary Emissions By Equipment Type

4.8.1. Unmitigated

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

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

4.9. User Defined Emissions By Equipment Type

4.9.1. Unmitigated

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

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

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.9. Operational Mobile Sources

5.9.1. Unmitigated

Land Use Type	Trips/Weekday	Trips/Saturday	Trips/Sunday	Trips/Year	VMT/Weekday	VMT/Saturday	VMT/Sunday	VMT/Year
General Light Industry	188	76	190	62,990	1,700	682	1,714	568,287
Strip Mall	1,064	1,009	490	355,493	9,596	9,103	4,424	3,207,233

Convenience Market (24 hour)	1,677	2,385	1,983	664,969	5,533	21,519	17,887	3,497,146

5.10. Operational Area Sources

5.10.1. Hearths

Land Use	Hearth Type	Unmitigated (number)	Mitigated (number)
General Light Industry	Wood Fireplaces	0	0
General Light Industry	Gas Fireplaces	0	0
General Light Industry	Propane Fireplaces	0	0
General Light Industry	Electric Fireplaces	0	0
General Light Industry	No Fireplaces	0	0
General Light Industry	Conventional Wood Stoves	0	0
General Light Industry	Catalytic Wood Stoves	0	0
General Light Industry	Non-Catalytic Wood Stoves	0	0
General Light Industry	Pellet Wood Stoves	0	0
Strip Mall	Wood Fireplaces	0	0
Strip Mall	Gas Fireplaces	0	0
Strip Mall	Propane Fireplaces	0	0
Strip Mall	Electric Fireplaces	0	0
Strip Mall	No Fireplaces	0	0
Strip Mall	Conventional Wood Stoves	0	0
Strip Mall	Catalytic Wood Stoves	0	0
Strip Mall	Non-Catalytic Wood Stoves	0	0
Strip Mall	Pellet Wood Stoves	0	0
Convenience Market (24 hour)	Wood Fireplaces	0	0
Convenience Market (24 hour)	Gas Fireplaces	0	0
Convenience Market (24 hour)	Propane Fireplaces	0	0
Convenience Market (24 hour)	Electric Fireplaces	0	0

Convenience Market (24 hour)	No Fireplaces	0	0
Convenience Market (24 hour)	Conventional Wood Stoves	0	0
Convenience Market (24 hour)	Catalytic Wood Stoves	0	0
Convenience Market (24 hour)	Non-Catalytic Wood Stoves	0	0
Convenience Market (24 hour)	Pellet Wood Stoves	0	0

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)
undefined	0.00	0.00	96,300	32,100	—

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)
General Light Industry	340,990	45	0.0330	0.0040	1,533,842
Strip Mall	211,549	45	0.0330	0.0040	103,858
Convenience Market (24 hour)	67,509	45	0.0330	0.0040	40,066

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
General Light Industry	8,787,500	0.00
Strip Mall	1,777,741	0.00
Convenience Market (24 hour)	162,960	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
General Light Industry	47	0.00
Strip Mall	25	0.00
Convenience Market (24 hour)	6.6	0.00

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
General Light Industry	Other commercial A/C and heat pumps	R-410A	2,088	0.30	4.0	4.0	18
Strip Mall	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.0	4.0	18
Strip Mall	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	R-404A	3,922	< 0.005	7.5	7.5	20
Convenience Market (24 hour)	Other commercial A/C and heat pumps	R-410A	2,088	< 0.005	4.0	4.0	18
Convenience Market (24 hour)	Supermarket refrigeration and condensing units	R-404A	3,922	27	17	17	18

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

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	11	annual days of extreme heat
Extreme Precipitation	4.0	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.4	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	38
AQ-PM	28

AQ-DPM	62
Drinking Water	30
Lead Risk Housing	49
Pesticides	54
Toxic Releases	32
Traffic	41
Effect Indicators	—
CleanUp Sites	62
Groundwater	38
Haz Waste Facilities/Generators	64
Impaired Water Bodies	90
Solid Waste	85
Sensitive Population	—
Asthma	4.2
Cardio-vascular	13
Low Birth Weights	65
Socioeconomic Factor Indicators	—
Education	83
Housing	70
Linguistic	90
Poverty	92
Unemployment	5.6

7.2. Healthy Places Index Scores

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

Indicator	Result for Project Census Tract
Economic	—
Above Poverty	23.27730014

Employed	43.12844861
Median HI	34.33850892
Education	—
Bachelor's or higher	15.47542666
High school enrollment	19.24804312
Preschool enrollment	29.86013089
Transportation	—
Auto Access	98.98626973
Active commuting	49.33915052
Social	—
2-parent households	34.54382138
Voting	48.659053
Neighborhood	—
Alcohol availability	44.5528038
Park access	10.72757603
Retail density	39.86911331
Supermarket access	47.37585012
Tree canopy	21.32683177
Housing	—
Homeownership	33.61991531
Housing habitability	43.23110484
Low-inc homeowner severe housing cost burden	29.79597074
Low-inc renter severe housing cost burden	63.30039779
Uncrowded housing	33.53009111
Health Outcomes	—
Insured adults	4.157577313
Arthritis	64.8
Asthma ER Admissions	96.3

High Blood Pressure	83.5
Cancer (excluding skin)	80.0
Asthma	25.7
Coronary Heart Disease	57.7
Chronic Obstructive Pulmonary Disease	27.0
Diagnosed Diabetes	38.1
Life Expectancy at Birth	31.7
Cognitively Disabled	44.8
Physically Disabled	80.2
Heart Attack ER Admissions	96.4
Mental Health Not Good	16.4
Chronic Kidney Disease	45.1
Obesity	26.2
Pedestrian Injuries	42.6
Physical Health Not Good	25.9
Stroke	51.7
Health Risk Behaviors	—
Binge Drinking	22.7
Current Smoker	18.8
No Leisure Time for Physical Activity	21.7
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	16.3
Elderly	90.0
English Speaking	5.3
Foreign-born	72.2
Outdoor Workers	23.3

Climate Change Adaptive Capacity	—
Impervious Surface Cover	45.9
Traffic Density	80.5
Traffic Access	23.0
Other Indices	—
Hardship	65.3
Other Decision Support	—
2016 Voting	53.3

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	60
Healthy Places Index Score for Project Location (b)	27
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

8.1. Justifications

Screen	Justification
Land Use	Land uses assumed in the 2022 RAQS