Town Center at Moreno Valley Specific Plan

AIR QUALITY IMPACT ANALYSIS

CITY OF MORENO VALLEY

PREPARED BY:

Haseeb Qureshi
hqureshi@urbanxroads.com

Ali Dadabhoy
adadabhoy@urbanxroads.com

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LIST OF ABBREVIATED TERMS

%	Percent
°F	Degrees Fahrenheit
(1)	Reference
µg/m^3	Microgram per Cubic Meter
1992 CO Plan	*1992 Federal Attainment Plan for Carbon Monoxide*
1993 CEQA Handbook	SCAQMD's *CEQA Air Quality Handbook (1993)*
2003 AQMP	SCAQMD's *2003 Air Quality Management Plan*
2016 AQMP	SCAQMD's *Final 2019 Air Quality Management Plan*
2016-2040 RTP/SCS	*2016-2040 Regional Transportation Plan/Sustainable Communities Strategy*
AB 2595	California Clean Air Act
AQIA	Air Quality Impact Analysis
AQMP	Air Quality Management Plan
BAAQMD	Bay Area Air Quality Management District
BC	Black Carbon
C_2Cl_4	Perchloroethylene
C_4H_6	1,3-butadiene
C_6H_6	Benzene
C_2H_3Cl	Vinyl Chloride
C_2H_4O	Acetaldehyde
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CalEPA	California Environmental Protection Agency
CALGreen	California Green Building Standards Code
CAP	Climate Action Plan
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEC	California Energy Commission
CEQA	California Environmental Quality Act
CEQA Guidelines	*2019 CEQA Statute and Guidelines*
CH_2O	Formaldehyde
CO	Carbon Monoxide
COH	Coefficient of Haze
COHb	Carboxyhemoglobin

Cr(VI)	Chromium
CTP	Clean Truck Program
Cr(VI)	Chromium
CRRC	Cool Roof Rating Council
CTP	Clean Truck Program
CY	Cubic Yards
DPM	Diesel Particulate Matter
DRRP	Diesel Risk Reduction Plan
EC	Elemental Carbon
EIR	Environmental Impact Reports
EMFAC	EMissions FACtor Model
EPA	Environmental Protection Agency
ETW	Equivalent Test Weight
EV	Electric Vehicles
g/L	Grams Per Liter
GHG	Greenhouse Gas
GVWR	Gross Vehicle Weight Rating
H_2S	Hydrogen Sulfide
HDT	Heavy Duty Trucks
HI	Hazard Index
HHDT	Heavy-Heavy-Duty Trucks
hp	Horsepower
HRA	*Moreno Valley Town Center Specific Plan Health Risk Assessment*
ITE	Institute of Transportation Engineers
lbs	Pounds
lbs/day	Pounds Per Day
LDA	Light Duty Auto
LDT1/LDT2	Light-Duty Trucks
LHDT	Light-Heavy-Duty Trucks
LST	Localized Significance Threshold
LST METHODOLOGY	Final Localized Significance Threshold Methodology
MATES	Multiple Air Toxics Exposure Study
MDV	Medium-Duty Vehicles
MHDT	Medium-Heavy-Duty Trucks
MICR	Maximum Individual Cancer Risk
MM	Mitigation Measures
MW	Megawatt

MWELO	California Department of Water Resources' Model Water Efficient
N_2	Nitrogen
N_2O	Nitrous Oxide
NAAQS	National Ambient Air Quality Standards
NO	Nitric Oxide
NO_2	Nitrogen Dioxide
NO_X	Nitrogen Oxides
O_2	Oxygen
O_3	Ozone
O_2 Deficiency	Chronic Hypoxemia
OBD-II	On-Board Diagnostic
OPR	Office of Planning and Research
Pb	Lead
PM_{10}	Particulate Matter 10 microns in diameter or less
$PM_{2.5}$	Particulate Matter 2.5 microns in diameter or less
POLA	Port of Los Angeles
POLB	Port of Long Beach
ppm	Parts Per Million
Project	Town Center at Moreno Valley Specific Plan
RECLAIM	Regional Clean Air Incentives Market
RFG-2	Reformulated Gasoline Regulation
ROG	Reactive Organic Gases
RTP	Regional Transportation Plan
SCAB	South Coast Air Basin
SCAG	Southern California Association of Governments
SCAQMD	South Coast Air Quality Management District
SCAQMD Rule 403	Fugitive Dust
SCAQMD Rule 1113	Architectural Coating
SCS	Sustainable Communities Strategy
sf	Square Feet
SIPs	State Implementation Plans
SO_2	Sulfur Dioxide
SO_4	Sulfates
SO_X	Sulfur Oxides
SRA	Source Receptor Area
TAC	Toxic Air Contaminant
TAZ	Traffic Analysis Zone

TDM	Transportation Demand Management
TITLE I	Non-Attainment Provisions
TITLE II	Mobile Sources Provisions
UFP	Ultra Fine Particles
UTRs	Utility Tractors
VMT	Vehicle Miles Traveled
VOC	Volatile Organic Compounds
vph	Vehicles Per Hour

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EXECUTIVE SUMMARY

ES.1 SUMMARY OF FINDINGS

The results of this *Town Center at Moreno Valley Specific Plan Air Quality Impact Analysis* (AQIA) are summarized below based on the significance criteria in Section 3 of this report consistent with Appendix G of the *California Environmental Quality Act (CEQA) Guidelines* (*CEQA Guidelines*) as implemented by the City of Moreno Valley (1). Table ES-1 shows the findings of significance for each potential air quality impact under CEQA before and after any required mitigation described below.

TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS (1 OF 2)

Analysis	Report Section	Significance Findings		
		Unmitigated	Mitigation Measure	Mitigated[1]
Regional Construction Emissions	5.3	*Potentially Significant*	*MM 1*	*Less than Significant*
Localized Construction Emissions	5.5	*Less than Significant*	*MM 1*	*Less than Significant*
Regional Operational Emissions	5.4	*Potentially Significant*	*MM 2 through MM 6*	*Significant and Unavoidable*
Localized Operational Emissions	5.6	*Less Than Significant*	*n/a*	*n/a*
CO "Hot Spot" Analysis	5.7	*Less Than Significant*	*n/a*	*n/a*
Air Quality Management Plan	5.8	*Potentially Significant*	*MM 2 through MM 6*	*Significant and Unavoidable*
Regional Transportation Plan/ Sustainable Communities Strategy	5.9	*Less Than Significant*	*n/a*	*n/a*
Sensitive Receptors	5.10	*Less Than Significant*	*n/a*	*n/a*
Odors	5.11	*Less Than Significant*	*n/a*	*n/a*
Cumulative Impacts	5.12	*Potentially Significant*	*MM 2 through MM 6*	*Significant and Unavoidable*

ES.2 STANDARD REGULATORY REQUIREMENTS

There are numerous requirements that development projects must comply with by law, and that were put in place by federal, State, and local regulatory agencies for the improvement of air quality. Required by South Coast Air Quality Management District (SCAQMD) Rules, the two most pertinent regulatory requirements that apply during construction activity for the proposed Project include, but are not limited to, Rule 403 (Fugitive Dust) (2) and Rule 1113 (Architectural Coatings) (3). As such, credit for Rule 403 and Rule 1113 have been taken in the analysis.

SCAQMD RULE 402

A person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

SCAQMD RULE 403

This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent and reduce fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth moving and grading activities.

SCAQMD RULE 445

The requirement to only install gaseous-fueled fireplaces and stoves is applicable to any new residential or commercial development that begins construction on or after March 9, 2009.

SCAQMD RULE 1113

This rule serves to limit the Volatile Organic Compound (VOC) content of architectural coatings used on projects in the SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the SCAQMD must comply with the current VOC standards set in this rule.

ES.3 PROJECT SPECIFIC CONSTRUCTION MITIGATION MEASURES

Project construction-source emissions have the potential to exceed the SCAQMD regional threshold for VOC emissions prior to mitigation. MM 1 is designed to reduce Project construction-source VOC impacts as well as further reduce emissions associated with NOx. After application of MM 1, Project construction-source emissions will not exceed SCAQMD regional thresholds for VOC emissions. Thus, the Project would result in a less than significant impact associated with construction activities.

MM 1

The project shall incorporate the following measures to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City.:

- Require fugitive-dust control measures that exceed SCAQMD's Rule 403 requirements, such as:
    - Use of nontoxic soil stabilizers to reduce wind erosion.
    - Apply water every four hours to active soil-disturbing activities
    - Tarp and/or maintain a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Encourage the use of construction equipment equal to or greater than 50 horsepower be electrically powered or alternatively fueled. At a minimum, use construction equipment rated by the United States Environmental Protection Agency as having Tier 4 Final (model year 2008 or newer) emission limits, Include this requirement in applicable bid documents, purchase orders, and contracts.
- Ensure that construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limit nonessential idling of construction equipment to no more than five consecutive minutes.
- Limit on-site vehicle travel speeds on unpaved roads to 15 miles per hour.
- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area.
- Use Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufacturers can be found on SCAQMD's website.

ES.4 PROJECT SPECIFIC OPERATIONAL MITIGATION MEASURES

For regional emissions, the Project has the potential to exceed the numerical thresholds of significance established by the SCAQMD. It is important to note that the majority of the Project's emissions are derived from vehicle usage (passenger cars and trucks). Since neither the Project Applicant nor the City have regulatory authority to control tailpipe emissions, no feasible mitigation measures beyond the measures identified herein exist that would reduce emissions to levels that are less-than-significant, thus these emissions are considered significant and unavoidable.

The following measures (MM 2 through MM 6.) are designed to reduce Project operational-source VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions. It should be noted that to provide a conservative disclosure of Project emissions, no emission reduction credits were taken for MM 2 through MM 6 during operational air quality modeling. Notwithstanding the foregoing, all of the below measures will decrease Project emissions. As such, even with application of MM 2 through MM 6, Project operational-source emissions impacts would be significant and unavoidable.

MM 2

Legible, durable, weather-proof signs shall be placed at commercial loading docks and truck parking areas that identify applicable CARB anti-idling regulations. At a minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict idling to no more than five (5) minutes once the vehicle is stopped, the transmission is set to "neutral" or "park," and the parking brake is engaged; and 3) telephone numbers of the building facilities manager and the CARB to report violations. Prior to the issuance of an occupancy permit, the City shall conduct a site inspection to ensure that the signs are in place.

MM 3

Prior to the issuing of each building permit, the Project proponent and its contractors shall provide plans and specifications to the City that demonstrate that electrical service is provided to each of the areas in the vicinity of the buildings that are to be landscaped in order that electrical equipment may be used for landscape maintenance.

MM 4

Once constructed, the Project proponent shall ensure that all commercial tenants shall utilize only electric or natural gas pallet jacks and forklifts in the loading areas.

MM 5

Upon occupancy and annually thereafter, the operators of the commercial space shall provide information to all delivery truck drivers, regarding:

- Building energy efficiency, solid waste reduction, recycling, and water conservation.
- Vehicle GHG emissions, electric vehicle charging availability, and alternate transportation opportunities for commuting.
- Participation in the Voluntary Interindustry Commerce Solutions (VICS) “Empty Miles” program to improve goods trucking efficiencies.
- Health effects of diesel particulates, State regulations limiting truck idling time, and the benefits of minimized idling.
- The importance of minimizing traffic, noise, and air pollutant impacts to any residences in the Project vicinity.

MM 6

Prior to issuance of a building permit, the Project proponent shall provide the City with an onsite signage program that clearly identifies the required onsite circulation system. This shall be accomplished through posted signs and painting on driveways and internal roadways.

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1 INTRODUCTION

This report presents the results of the AQIA prepared by Urban Crossroads, Inc., for the proposed Town Center at Moreno Valley Specific Plan (Project). The purpose of this AQIA is to evaluate the potential impacts to air quality associated with construction and operation of the Project and recommend measures to mitigate impacts considered potentially significant in comparison to thresholds established by the SCAQMD.

1.1 SITE LOCATION

The Project site is generally bound by Cottonwood Avenue to the north, Nason Street to the east, Alessandro Boulevard to the south, and vacant land and a residential subdivision to the west. The Project site is currently undeveloped. There is a vacant parcel northeast of the Project site (southwest of the Nason Street and Cottonwood Avenue intersection), and an Eastern Municipal Water District booster station northwest of the Project site (southeast corner of Cottonwood Avenue and Letterman Street) that are not part of the Project. Exhibit 1-A depicts the location of the Project.

1.2 PROJECT DESCRIPTION

The Project includes a proposed Specific Plan and TTM to allow for the development of residential, commercial, and park uses, as shown on the conceptual site plan provided on Figure 3. Access to the Project site would be provided from Cottonwood Avenue, Nason Street, Bay Avenue, and Alessandro Boulevard. Because the proposed Specific Plan is designed to provide flexibility for development within the Specific Plan area, the actual type and amount of uses that would be developed at buildout of the Specific Plan is unknown. Therefore, a reasonable potential buildout development scenario has been developed for purposes of analysis; the following uses are anticipated in the respective land use areas shown in Exhibit 1-B.

- 800 single family detached[1] residential dwelling units (DU)
- 4.8 acres of parks
- 106-room hotel
- 15,000 square feet (sf) of office use
- 30,000 sf civic use
- 16,660 sf of high turnover (sit-down) restaurant use
- 3,500 sf of fast-food restaurant with drive-thru window
- 60,890 sf of commercial retail use
- 45,000 sf of supermarket use

The existing 2006 Moreno Valley General Plan land use designation and zoning for the site is Public Facilities. Therefore, the proposed Project also involves a General Plan amendment and

[1] The Project could include the development of multifamily residential uses, however, for purposes of analysis, and consistent with the Town Center at Moreno Valley Specific Plan Traffic Analysis, this AQIA analyzes 800 single family detached residential DUs.

zone change. The proposed General Plan land use designations are Residential (30 du/acre maximum), Open Space, and Commercial. The proposed change of zone would amend the Public Facilities zoning to the TCMV Specific Plan (SP 222) zoning classification for the subject property.

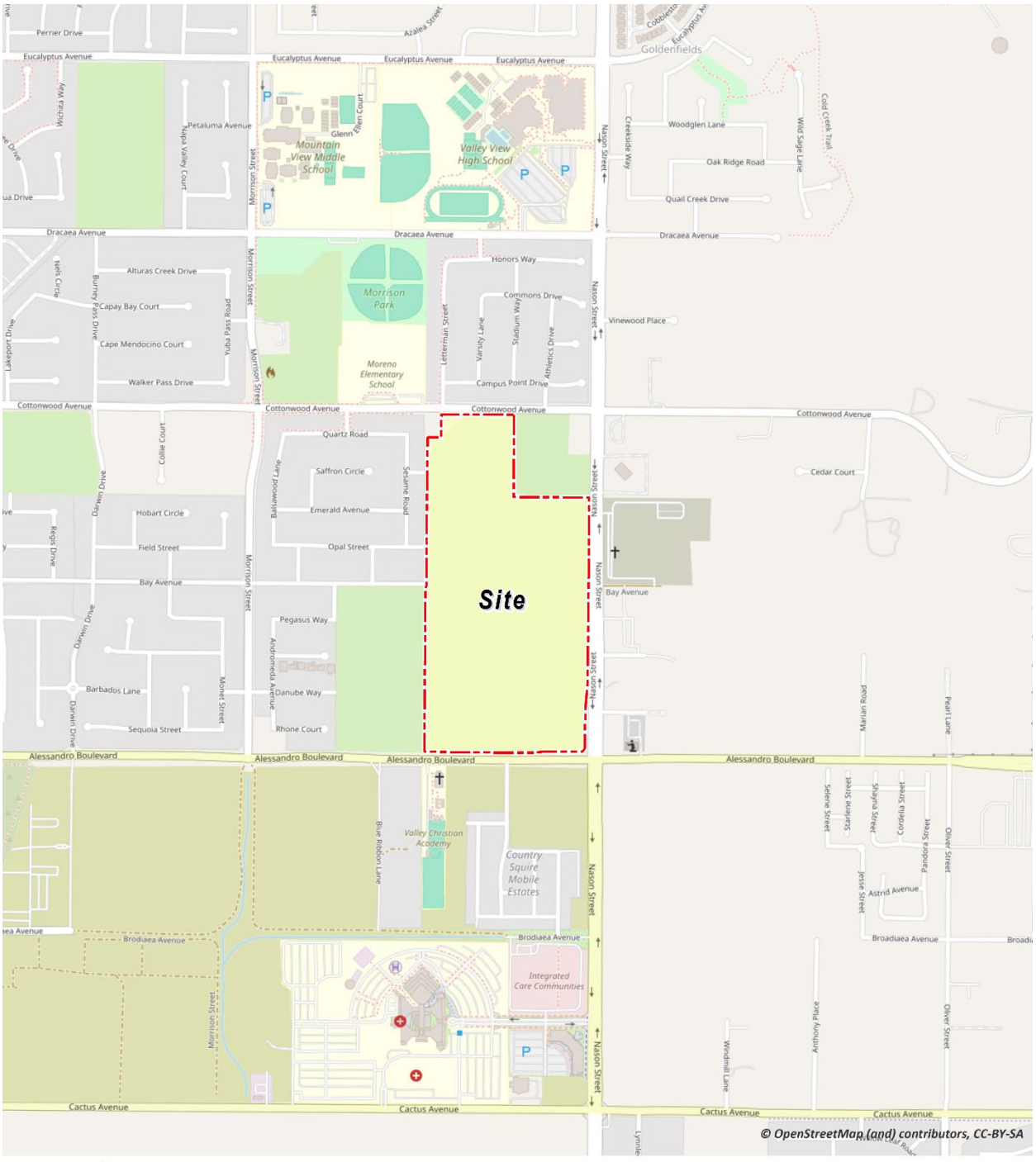
However, the City of Moreno Valley is currently in the process of readopting the City's 2040 General Plan Update (2040 General Plan) and zoning.[2] The General Plan land use designation and zoning proposed by the City is Downtown Center (DC) District. The proposed Town Center at Moreno Valley Specific Plan is consistent with the City's proposed Downtown Center (DC) District land use and zoning designations.

This report evaluates the impacts resulting from implementation of the proposed Project under the existing General Plan land use and zoning designations, which would require a General Plan Amendment and zone change, and the City's proposed 2040 General Plan land use and zoning designation, if applicable, to the analysis.

A preliminary land use plan for the proposed Project is shown on Exhibit 1-B. For the purposes of this analysis, it is assumed that the Project would be developed in a single phase with an anticipated Opening Year of 2028.

[2] In June 2021, the City Council of the City of Moreno Valley (City Council) approved and adopted the City's 2040 General Plan Update (2040 General Plan), a Change of Zone and Municipal Code Update, and its Climate Action Plan (CAP) and certified an EIR, State Clearinghouse No. 2020039022, as having been prepared in compliance with CEQA in connection with the approvals. A lawsuit entitled Sierra Club v. The City of Moreno Valley, Riverside Superior Court Case No. CVRI2103300, challenged the validity of the CAP and the EIR. In May 2024, the City Council set aside the 2021 approvals and certification, based on a March 2024 ruling and judgment of the court. The City is in the process of readopting the 2040 General Plan and issued a Notice of Preparation of a Revised Environmental Impact Report for MoVal 2040: The Moreno Valley Comprehensive General Plan Update, Municipal Code and Zoning (including Zoning Atlas) Amendments, and Climate Action Plan on July 30, 2024.

EXHIBIT 1-A: SITE LOCATION

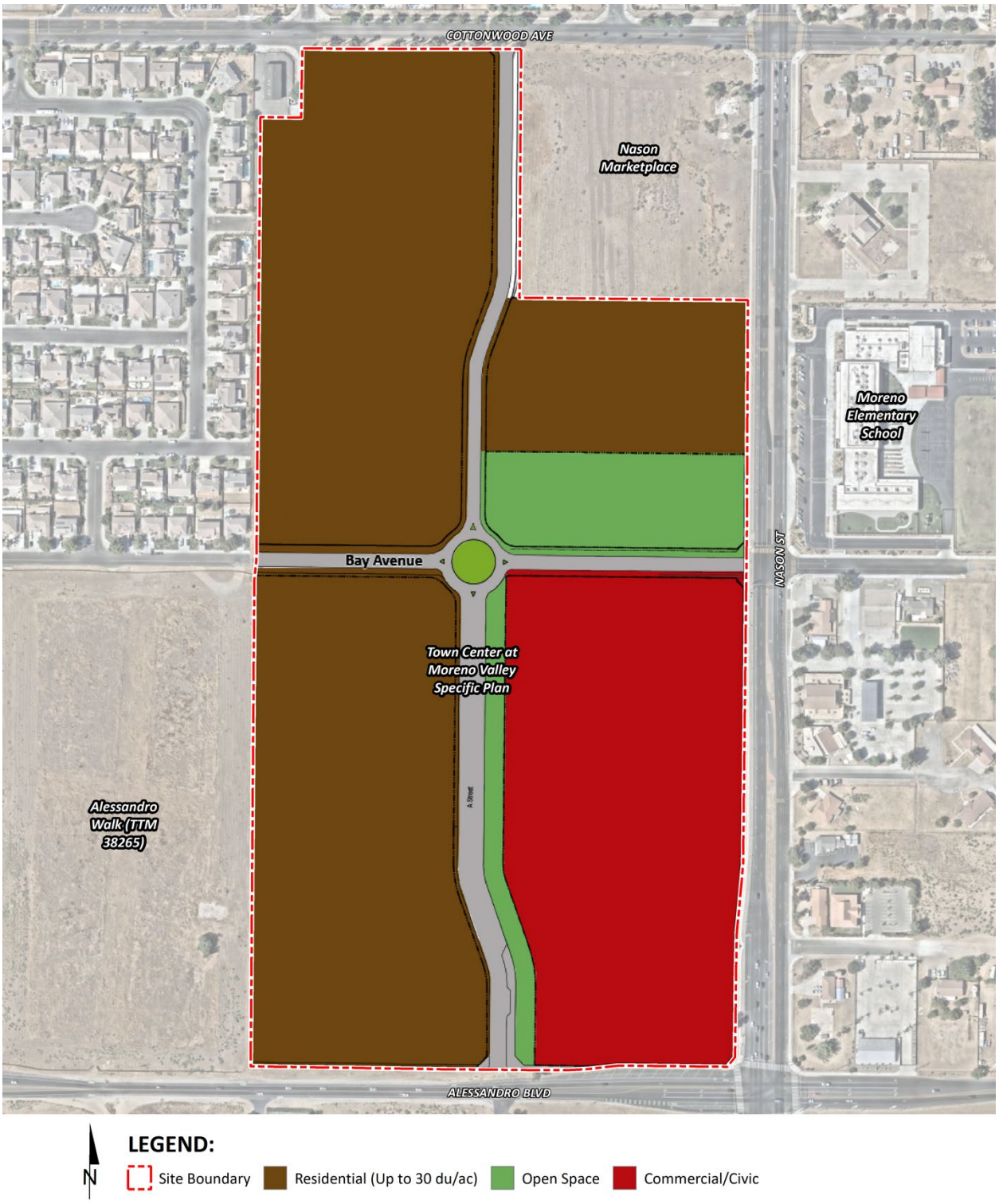


LEGEND:

N

Site Boundary

EXHIBIT 1-B: CONCEPTUAL LAND USE PLAN



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2 AIR QUALITY SETTING

This section provides an overview of the existing air quality conditions in the Project area and region.

2.1 SOUTH COAST AIR BASIN

The Project site is located in the South Coast Air Basin (SCAB) within the jurisdiction of SCAQMD (4). The SCAQMD was created by the 1977 Lewis-Presley Air Quality Management Act, which merged four county air pollution control bodies into one regional district. Under the Act, the SCAQMD is responsible for bringing air quality in areas under its jurisdiction into conformity with federal and state air quality standards. As previously stated, the Project site is located within the SCAB, a 6,745-square mile subregion of the SCAQMD, which includes the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, and all of Orange County.

The SCAB is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the San Diego Air Basin to the south.

2.2 REGIONAL CLIMATE

The regional climate has a substantial influence on air quality in the SCAB. In addition, the temperature, wind, humidity, precipitation, and amount of sunshine influence the air quality.

The annual average temperatures throughout the SCAB vary from the low to middle 60s degrees Fahrenheit (°F). Due to a decreased marine influence, the eastern portion of the SCAB shows greater variability in average annual minimum and maximum temperatures. January is the coldest month throughout the SCAB, with average minimum temperatures of 47°F in downtown Los Angeles and 36°F in San Bernardino. All portions of the SCAB have recorded maximum temperatures above 100°F.

Although the climate of the SCAB can be characterized as semi-arid, the air near the land surface is quite moist on most days because of the presence of a marine layer. This shallow layer of sea air is an important modifier of SCAB climate. Humidity restricts visibility in the SCAB, and the conversion of sulfur dioxide (SO_2) to sulfates (SO_4) is heightened in air with high relative humidity. The marine layer provides an environment for that conversion process, especially during the spring and summer months. The annual average relative humidity within the SCAB is 71 percent (%) along the coast and 59% inland. Since the ocean effect is dominant, periods of heavy early morning fog are frequent and low stratus clouds are a characteristic feature. These effects decrease with distance from the coast.

More than 90% of the SCAB's rainfall occurs from November through April. The annual average rainfall varies from approximately nine inches in Riverside to fourteen inches in downtown Los Angeles. Monthly and yearly rainfall totals are extremely variable. Summer rainfall usually consists of widely scattered thunderstorms near the coast and slightly heavier shower activity in the eastern portion of the SCAB with frequency being higher near the coast.

Due to its generally clear weather, about three-quarters of available sunshine is received in the SCAB. The remaining one-quarter is absorbed by clouds. The ultraviolet portion of this abundant radiation is a key factor in photochemical reactions. On the shortest day of the year, there are approximately 10 hours of possible sunshine, and on the longest day of the year, there are approximately 14½ hours of possible sunshine.

The importance of wind to air pollution is considerable. The direction and speed of the wind determines the horizontal dispersion and transport of the air pollutants. During the late autumn to early spring rainy season, the SCAB is subjected to wind flows associated with the traveling storms moving through the region from the northwest. This period also brings five to ten periods of strong, dry offshore winds, locally termed "Santa Anas" each year. During the dry season, which coincides with the months of maximum photochemical smog concentrations, the wind flow is bimodal, typified by a daytime onshore sea breeze and a nighttime offshore drainage wind. Summer wind flows are created by the pressure differences between the relatively cold ocean and the unevenly heated and cooled land surfaces that modify the general northwesterly wind circulation over southern California. Nighttime drainage begins with the radiational cooling of the mountain slopes. Heavy, cool air descends the slopes and flows through the mountain passes and canyons as it follows the lowering terrain toward the ocean. Another characteristic wind regime in the SCAB is the "Catalina Eddy," a low level cyclonic (counterclockwise) flow centered over Santa Catalina Island which results in an offshore flow to the southwest. On most spring and summer days, some indication of an eddy is apparent in coastal sections.

In the SCAB, there are two distinct temperature inversion structures that control vertical mixing of air pollution. During the summer, warm high-pressure descending (subsiding) air is undercut by a shallow layer of cool marine air. The boundary between these two layers of air is a persistent marine subsidence/inversion. This boundary prevents vertical mixing which effectively acts as an impervious lid to pollutants over the entire SCAB. The mixing height for the inversion structure is normally situated 1,000 to 1,500 feet above mean sea level.

A second inversion-type forms in conjunction with the drainage of cool air off the surrounding mountains at night followed by the seaward drift of this pool of cool air. The top of this layer forms a sharp boundary with the warmer air aloft and creates nocturnal radiation inversions. These inversions occur primarily in the winter, when nights are longer and onshore flow is weakest. They are typically only a few hundred feet above mean sea level. These inversions effectively trap pollutants, such as nitrogen oxides (NO_X) and carbon monoxide (CO) from vehicles, as the pool of cool air drifts seaward. Winter is therefore a period of high levels of primary pollutants along the coastline.

2.3 WIND PATTERNS AND PROJECT LOCATION

The distinctive climate of the Project area and the SCAB is determined by its terrain and geographical location. The SCAB is located in a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean in the southwest quadrant with high mountains forming the remainder of the perimeter.

Wind patterns across the south coastal region are characterized by westerly and southwesterly onshore winds during the day and easterly or northeasterly breezes at night. Winds are characteristically light although the speed is somewhat greater during the dry summer months than during the rainy winter season.

2.4 CRITERIA POLLUTANTS

Criteria pollutants are pollutants that are regulated through the development of human health based and/or environmentally based criteria for setting permissible levels. Criteria pollutants, their typical sources, and health effects are identified below (5):

TABLE 2-1: CRITERIA POLLUTANTS

Criteria Pollutant	Description	Sources	Health Effects
CO	CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone (O_3), motor vehicles operating at slow speeds are the primary source of CO in the SCAB. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise, and electrocardiograph changes indicative of decreased oxygen (O_2) supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with O_2 transport and competing with O_2 to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for O_2 supply can be adversely affected by exposure to CO. Individuals most at risk include fetuses, patients with diseases involving heart and blood vessels, and patients with chronic hypoxemia (O_2 deficiency) as seen at high altitudes.
SO_2	SO_2 is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant	Coal or oil burning power plants and industries,	A few minutes of exposure to low levels of SO_2 can result in airway constriction in some

Criteria Pollutant	Description	Sources	Health Effects
	mainly as a result of burning high sulfur-content fuel oils and coal and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms SO_4. Collectively, these pollutants are referred to as sulfur oxides (SO_X).	refineries, diesel engines	asthmatics, all of whom are sensitive to its effects. In asthmatics, increase in resistance to air flow, as well as reduction in breathing capacity leading to severe breathing difficulties, are observed after acute exposure to SO_2. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO_2. Animal studies suggest that despite SO_2 being a respiratory irritant, it does not cause substantial lung injury at ambient concentrations. However, very high levels of exposure can cause lung edema (fluid accumulation), lung tissue damage, and sloughing off of cells lining the respiratory tract. Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO_2 levels. In these studies, efforts to separate the effects of SO_2 from those of fine particles have not been successful. It is not clear whether the two pollutants act synergistically, or one pollutant alone is the predominant factor.
NO_X	NO_X consist of nitric oxide (NO), nitrogen dioxide (NO_2) and nitrous oxide (N_2O) and are formed when nitrogen (N_2) combines with O_2. Their lifespan in the atmosphere ranges from	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming	Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants), is

Criteria Pollutant	Description	Sources	Health Effects
	one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. NO_X is typically created during combustion processes and are major contributors to smog formation and acid deposition. NO_2 is a criteria air pollutant and may result in numerous adverse health effects; it absorbs blue light, resulting in a brownish-red cast to the atmosphere and reduced visibility. Of the seven types of nitrogen oxide compounds, NO_2 is the most abundant in the atmosphere. As ambient concentrations of NO_2 are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO_2 than those indicated by regional monitoring station.	equipment and residential heating.	associated with long-term exposure to NO_2 at levels found in homes with gas stoves, which are higher than ambient levels found in Southern California. Increase in resistance to air flow and airway contraction is observed after short-term exposure to NO_2 in healthy subjects. Larger decreases in lung functions are observed in individuals with asthma or chronic obstructive pulmonary disease (e.g., chronic bronchitis, emphysema) than in healthy individuals, indicating a greater susceptibility of these sub-groups. In animals, exposure to levels of NO_2 considerably higher than ambient concentrations result in increased susceptibility to infections, possibly due to the observed changes in cells involved in maintaining immune functions. The severity of lung tissue damage associated with high levels of O_3 exposure increases when animals are exposed to a combination of O_3 and NO_2.
O_3	O_3 is a highly reactive and unstable gas that is formed when VOCs and NO_X, both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O_3 concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable to the formation of this pollutant.	Formed when reactive organic gases (ROG) and NO_X react in the presence of sunlight. ROG sources include any source that burns fuels, (e.g., gasoline, natural gas, wood, oil) solvents, petroleum processing and	Individuals exercising outdoors, children, and people with preexisting lung disease, such as asthma and chronic pulmonary lung disease, are considered to be the most susceptible sub-groups for O_3 effects. Short-term exposure (lasting for a few hours) to O_3 at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased

Criteria Pollutant	Description	Sources	Health Effects
		storage and pesticides.	susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated O_3 levels are associated with increased school absences. In recent years, a correlation between elevated ambient O_3 levels and increases in daily hospital admission rates, as well as mortality, has also been reported. An increased risk for asthma has been found in children who participate in multiple outdoor sports and live in communities with high O_3 levels. O_3 exposure under exercising conditions is known to increase the severity of the responses described above. Animal studies suggest that exposure to a combination of pollutants that includes O_3 may be more toxic than exposure to O_3 alone. Although lung volume and resistance changes observed after a single exposure diminish with repeated exposures, biochemical and cellular changes appear to persist, which can lead to subsequent lung structural changes.
Particulate Matter	PM_{10}: A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a major cause of reduce visibility (haze) which is caused by the scattering of light and consequently the significant reduction air clarity. The size of the particles (10 microns or smaller, about 0.0004 inches or less) allows them to easily enter the lungs where they may be	Sources of PM_{10} include road dust, windblown dust and construction. Also formed from other pollutants (acid rain, NO_X, SO_X, organics). Incomplete combustion of any fuel. $PM_{2.5}$ comes from	A consistent correlation between elevated ambient fine particulate matter (PM_{10} and $PM_{2.5}$) levels and an increase in mortality rates, respiratory infections, number and severity of asthma attacks and the number of hospital admissions has been observed in different parts of the United States and various areas around the world. In

Criteria Pollutant	Description	Sources	Health Effects
	deposited, resulting in adverse health effects. Additionally, it should be noted that PM_{10} is considered a criteria air pollutant. $PM_{2.5}$: A similar air pollutant to PM_{10} consisting of tiny solid or liquid particles which are 2.5 microns or smaller (which is often referred to as fine particles). These particles are formed in the atmosphere from primary gaseous emissions that include SO_4 formed from SO_2 release from power plants and industrial facilities and nitrates that are formed from NO_X release from power plants, automobiles, and other types of combustion sources. The chemical composition of fine particles highly depends on location, time of year, and weather conditions. $PM_{2.5}$ is a criteria air pollutant.	fuel combustion in motor vehicles, equipment, and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO_X, SO_X, organics).	recent years, some studies have reported an association between long-term exposure to air pollution dominated by fine particles and increased mortality, reduction in lifespan, and an increased mortality from lung cancer. Daily fluctuations in $PM_{2.5}$ concentration levels have also been related to hospital admissions for acute respiratory conditions in children, to school and kindergarten absences, to a decrease in respiratory lung volumes in normal children, and to increased medication use in children and adults with asthma. Recent studies show lung function growth in children is reduced with long term exposure to particulate matter. The elderly, people with pre-existing respiratory or cardiovascular disease, and children appear to be more susceptible to the effects of high levels of PM_{10} and $PM_{2.5}$.
VOC	VOCs are hydrocarbon compounds (any compound containing various combinations of hydrogen and carbon atoms) that exist in the ambient air. VOCs contribute to the formation of smog through atmospheric photochemical reactions and/or may be toxic. Compounds of carbon (also known as organic compounds) have different levels of reactivity; that is, they do not react at the same speed or do not form O_3 to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the	Organic chemicals are widely used as ingredients in household products. Paints, varnishes, and wax all contain organic solvents, as do many cleaning, disinfecting, cosmetic, degreasing and hobby products. Fuels are made up of organic chemicals. All of these products can release organic	Breathing VOCs can irritate the eyes, nose, and throat, can cause difficulty breathing and nausea, and can damage the central nervous system as well as other organs. Some VOCs can cause cancer. Not all VOCs have all these health effects, though many have several.

Criteria Pollutant	Description	Sources	Health Effects
	solvents used in paints. Exceptions to the VOC designation include CO, carbon dioxide, carbonic acid, metallic carbides or carbonates, and ammonium carbonate. VOCs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms VOC and ROG (see below) interchangeably.	compounds while you are using them, and, to some degree, when they are stored.	
ROG	Similar to VOC, ROGs are also precursors in forming O_3 and consist of compounds containing methane, ethane, propane, butane, and longer chain hydrocarbons, which are typically the result of some type of combustion/decomposition process. Smog is formed when ROG and NO_X react in the presence of sunlight. ROGs are a criteria pollutant since they are a precursor to O_3, which is a criteria pollutant. The terms ROG and VOC (see previous) interchangeably.	Sources similar to VOCs.	Health effects similar to VOCs.
Lead (Pb)	Pb is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of Pb in the air was emissions from vehicles burning leaded gasoline. The major sources of Pb emissions are ore and metals processing, particularly Pb smelters, and piston-engine aircraft operating on leaded aviation gasoline. Other stationary sources include waste incinerators, utilities, and lead-acid battery manufacturers. It should be noted that the Project does not include operational activities such as metal processing or Pb acid battery manufacturing. As such, the Project is not anticipated to	Metal smelters, resource recovery, leaded gasoline, deterioration of Pb paint.	Fetuses, infants, and children are more sensitive than others to the adverse effects of Pb exposure. Exposure to low levels of Pb can adversely affect the development and function of the central nervous system, leading to learning disorders, distractibility, inability to follow simple commands, and lower intelligence quotient. In adults, increased Pb levels are associated with increased blood pressure. Pb poisoning can cause anemia, lethargy, seizures, and death; although it appears that there are no direct effects of Pb on the respiratory system. Pb can be

Criteria Pollutant	Description	Sources	Health Effects
	generate a quantifiable amount of Pb emissions.		stored in the bone from early age environmental exposure, and elevated blood Pb levels can occur due to breakdown of bone tissue during pregnancy, hyperthyroidism (increased secretion of hormones from the thyroid gland) and osteoporosis (breakdown of bony tissue). Fetuses and breast-fed babies can be exposed to higher levels of Pb because of previous environmental Pb exposure of their mothers.
Odor	Odor means the perception experienced by a person when one or more chemical substances in the air come into contact with the human olfactory nerves (6).	Odors can come from many sources including animals, human activities, industry, natures, and vehicles.	Offensive odors can potentially affect human health in several ways. First, odorant compounds can irritate the eye, nose, and throat, which can reduce respiratory volume. Second, studies have shown that the VOCs that cause odors can stimulate sensory nerves to cause neurochemical changes that might influence health, for instance, by compromising the immune system. Finally, unpleasant odors can trigger memories or attitudes linked to unpleasant odors, causing cognitive and emotional effects such as stress.

2.5 EXISTING AIR QUALITY

Existing air quality is measured at established SCAQMD air quality monitoring stations. Monitored air quality is evaluated in the context of ambient air quality standards. These standards are the levels of air quality that are considered safe, with an adequate margin of safety, to protect the public health and welfare. National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) currently in effect are shown in Table 2-2 (7).

The determination of whether a region's air quality is healthful or unhealthful is determined by comparing contaminant levels in ambient air samples to the state and federal standards. At the time of this AQIA, the most recent state and federal standards were updated by CARB on July, 16 2024 and are presented in Table 2-2. The air quality in a region is considered to be in attainment by the state if the measured ambient air pollutant levels for O_3, CO, SO_2 (1 and 24 hour), NO_2, PM_{10}, and $PM_{2.5}$ are not to be exceeded. All others are not to be equaled or exceeded. It should be noted that the three-year period is presented for informational purposes and is not the basis for how the State assigns attainment status. Attainment status for a pollutant means that the SCAQMD meets the standards set by the EPA or the California EPA (CalEPA). Conversely, nonattainment means that an area has monitored air quality that does not meet the NAAQS or CAAQS standards. In order to improve air quality in nonattainment areas, a State Implementation Plan (SIP) is drafted by CARB. The SIP outlines the measures that the state will take to improve air quality. Once nonattainment areas meet the standards and additional redesignation requirements, the EPA will designate the area as a maintenance area (8).

TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (1 OF 2)

Table of Ambient Air Quality Standards

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 (O_3)[8]	1 Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m^3)		0.070 ppm (137 µg/m^3)		
Respirable Particulate Matter (PM10)[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 (PM2.5)[9]	24 Hour	—	—	35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	9.0 µg/m^3	15.0 µg/m^3	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m^3)	—	Non-Dispersive Infrared Photometry (NDIR)
	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 Chemiluminescence	100 ppb (188 µg/m^3)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)		53 ppb (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 Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 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 Chromatography			
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 Chromatography			

See footnotes on next page …

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TABLE 2-2: AMBIENT AIR QUALITY STANDARDS (2 OF 2)

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, 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 PM10, the 24 hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, 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 ARB 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 PM2.5 primary standard was lowered from 12.0 $\mu g/m^3$ to 9.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15.0 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ 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 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard 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 nonattainment 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 parts per billion (ppb). California standards are in units of parts per million (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 ARB 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 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment 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.

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2.6 REGIONAL AIR QUALITY

Air pollution contributes to a wide variety of adverse health effects. The EPA has established NAAQS for six of the most common air pollutants, which are known as criteria pollutants: CO, Pb, O_3, particulate matter (PM_{10} and $PM_{2.5}$), NO_2, and SO_2. The SCAQMD monitors levels of various criteria pollutants at 35 permanent monitoring stations and 2 single-pollutant source Pb air monitoring sites throughout the air district (9). On January 25, 2024, CARB posted the proposed 2023 amendments to the state and national area designations. See Table 2-3 for attainment designations for the SCAB (10). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the SCAB.

TABLE 2-3: ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SCAB

Criteria Pollutant	State Designation	Federal Designation
O_3 – 1-hour standard	Nonattainment	--
O_3 – 8-hour standard	Nonattainment	Nonattainment
PM_{10}	Nonattainment	Attainment
$PM_{2.5}$	Nonattainment	Nonattainment
CO	Attainment	Unclassifiable/Attainment
NO_2	Attainment	Unclassifiable/Attainment
SO_2	Attainment	Unclassifiable/Attainment
Pb[3]	Attainment	Unclassifiable/Attainment

Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the SCAB
"-" = no standard

2.7 LOCAL AIR QUALITY

The SCAQMD has designated general forecast areas and air monitoring areas (referred to as Source Receptor Areas [SRA]) throughout the district in order to provide Southern California residents with information on the air quality conditions. The Project Site is located within the SRA 24 (11). Within SRA 24, the SCAQMD Perris Valley monitoring station, located approximately 8.7 miles southwest of the Project site, is the nearest air quality monitoring station, however, data is not available for the past three years. As the Perris Valley monitoring station does not provide data for air quality conditions, the next nearest monitoring stations will be utilized. Data for CO, NO_2, and PM_{10} was obtained from the Elsinore Valley monitoring station, located in SRA 25 approximately 18.34 miles southwest of the Project site. The nearest station for $PM_{2.5}$ data was obtained from the Metropolitan Riverside County monitoring station which is located approximately 14.0 miles northwest of the Project site. It should be noted that data from Elsinore Valley and Metropolitan Riverside County monitoring stations were utilized in lieu of the Perris Valley monitoring station only in instances where data was not available.

[3] The Federal nonattainment designation for lead is only applicable towards the Los Angeles County portion of the SCAB.

The most recent three (3) years of data available are shown on Table 2-4 and identifies the number of days ambient air quality standards were exceeded for the study area, which is considered to be representative of the local air quality at the Project Site. Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ for 2021 through 2023 was obtained from the SCAQMD Air Quality Data Tables (12). Additionally, data for SO_2 has been omitted as attainment is regularly met in the SCAB and few monitoring stations measure SO_2 concentrations.

TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2021-2023

Pollutant	Standard	Year		
		2021	2022	2023
O_3				
Maximum Federal 1-Hour Concentration (ppm)		0.117	0.121	0.120
Maximum Federal 8-Hour Concentration (ppm)		0.094	0.091	0.103
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	25	17	10
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	60	37	35
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	0.9	0.9	1.3
Maximum Federal 8-Hour Concentration	> 20 ppm	0.8	0.6	0.7
NO_2				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	0.044	0.037	0.042
Annual Average		0.007	0.007	0.007
PM_{10}				
Maximum Federal 24-Hour Concentration (µg/m^3)	> 150 µg/m^3	89	91	186
Annual Federal Arithmetic Mean (µg/m^3)		21.4	19.8	20.8
Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m^3	0	0	1
Number of Days Exceeding State 24-Hour Standard	> 50 µg/m^3	4	1	5
$PM_{2.5}$				
Maximum Federal 24-Hour Concentration (µg/m^3)	> 35 µg/m^3	82.10	38.50	48.70
Annual Federal Arithmetic Mean (µg/m^3)	> 12 µg/m^3	12.58	10.80	10.47
Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m^3	10	1	1

ppm = Parts Per Million

µg/m^3 = Microgram per Cubic Meter

Source: Data for O_3, CO, NO_2, PM_{10}, and $PM_{2.5}$ was obtained from SCAQMD Air Quality Data Tables.

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3 REGULATORY BACKGROUND

3.1 FEDERAL REGULATIONS

The EPA is responsible for setting and enforcing the NAAQS for O_3, CO, NO_X, SO_2, PM_{10}, and Pb (13). The EPA has jurisdiction over emissions sources that are under the authority of the federal government including aircraft, locomotives, and emissions sources outside state waters (Outer Continental Shelf). The EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of CARB.

The Federal Clean Air Act (CAA) was first enacted in 1955 and has been amended numerous times in subsequent years (1963, 1965, 1967, 1970, 1977, and 1990). The CAA establishes the federal air quality standards, the NAAQS, and specifies future dates for achieving compliance (14). The CAA also mandates that states submit and implement SIPs for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA that identify specific emission reduction goals for areas not meeting the NAAQS require a demonstration of reasonable further progress toward attainment and incorporate additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most directly applicable to the development of the Project site include Title I (Non-Attainment Provisions) and Title II (Mobile Source Provisions) (15) (16). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O_3, NO_2, SO_2, PM_{10}, CO, $PM_{2.5}$, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O_3 and to adopt a NAAQS for $PM_{2.5}$. Table 2-3 (previously presented) provides the NAAQS within the SCAB.

Mobile source emissions are regulated in accordance with Title II provisions. These provisions require the use of cleaner burning gasoline and other cleaner burning fuels such as methanol and natural gas. Automobile manufacturers are also required to reduce tailpipe emissions of hydrocarbons and NO_X. NO_X is a collective term that includes all forms of NO_X which are emitted as byproducts of the combustion process.

3.2 CALIFORNIA REGULATIONS

CARB

CARB, which became part of CalEPA in 1991, is responsible for ensuring implementation of the California Clean Air Act (AB 2595), responding to the federal CAA, and for regulating emissions from consumer products and motor vehicles. AB 2595 mandates achievement of the maximum degree of emissions reductions possible from vehicular and other mobile sources in order to attain the state ambient air quality standards by the earliest practical date. CARB established the CAAQS for all pollutants for which the federal government has NAAQS and, in addition, establishes standards for SO_4, visibility, hydrogen sulfide (H_2S), and vinyl chloride (C_2H_3Cl). However, at this time, H_2S and C_2H_3Cl are not measured at any monitoring stations in the SCAB

because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (17) (13).

Local air quality management districts, such as the SCAQMD, regulate air emissions from stationary sources such as commercial and industrial facilities. All air pollution control districts have been formally designated as attainment or non-attainment for each CAAQS.

Serious non-attainment areas are required to prepare Air Quality Management Plans (AQMP) that include specified emission reduction strategies in an effort to meet clean air goals. These plans are required to include:

- Application of Best Available Retrofit Control Technology to existing sources;
- Developing control programs for area sources (e.g., architectural coatings and solvents) and indirect sources (e.g. motor vehicle use generated by residential and commercial development);
- A District permitting system designed to allow no net increase in emissions from any new or modified permitted sources of emissions;
- Implementing reasonably available transportation control measures and assuring a substantial reduction in growth rate of vehicle trips and miles traveled;
- Significant use of low emissions vehicles by fleet operators;
- Sufficient control strategies to achieve a 5% or more annual reduction in emissions or 15% or more in a period of three years for ROGs, NO_X, CO and PM_{10}. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than 5% per year under certain circumstances.

TITLE 24 ENERGY EFFICIENCY STANDARDS AND CALIFORNIA GREEN BUILDING STANDARDS

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption.

The standards are updated periodically to allow consideration and possible incorporation of new energy efficient technologies and methods. CCR, Title 24, Part 11: California Green Building Standards Code (CALGreen) is a comprehensive and uniform regulatory code for all residential, commercial, and school buildings that went in effect on August 1, 2009, and is administered by the California Building Standards Commission.

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards that became effective on January 1, 2023[4]. The CEC anticipates that the 2022 energy code will provide $1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (18). The Project would be required to comply with the applicable standards in place at the time plan check submittals are made. Current CALGreen standards require, among other items (19) (20):

[4] The 2022 California Green Building Standards Code became effective on January 1, 2023, however; it has since been amended on July 1, 2024 with the Intervening Code Cycle Update which is reflected in this report. Additionally, it should be noted that CALGreen is currently being updated, with the most recent draft update consisting of the 2025 California Green Building Code Standards that will be effective on January 1, 2025. As construction of the Project is anticipated to be completed in 2028, it is presumed that the Project would be required to comply with the Title 24 standards in place at that time.

RESIDENTIAL MANDATORY MEASURES

- Electric vehicle (EV) charging stations. New construction shall comply with Section 4.106.4.1, 4.106.4.2, 4.106.4.3, to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the *California Electrical Code*, Article 625. (4.106.4).
    - New one- and two-family dwellings and town-houses with attached private garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or subpanel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or subpanel shall provide capacity to install a 40-ampere 208/240-volt minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.
    - New hotels and motels. All newly constructed hotels and motels shall provide EV spaces capable of supporting future installation of EVSE. The construction documents shall identify the location of the EV spaces. The number of required EV spaces shall be based on the total number of parking spaces provided for all types of parking facilities in accordance with Table 4.106.4.3.1.
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with Sections 4.303.1.1, 4.303.1.2, 4.303.1.3, and 4.303.1.4.
- Outdoor potable water use in landscape areas. Residential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resource ' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent.
- Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:
    - Directions to the owner or occupant that the manual shall remain with the building throughout the life cycle of the structure.
    - Operations and maintenance instructions for the following:
        1. Equipment and appliances, including water-saving devices and systems, HVAC systems, photovoltaic systems, EV chargers, water-heating systems and other major appliances and equipment.
        2. Roof and yard drainage, including gutter and downspouts.
        3. Space conditioning systems, including condensers and air filters.
        4. Landscape irrigation systems.
        5. Water reuse systems.
    - Information from local utility, water and waste recovery providers on methods to future reduce resource consumption, including recycle programs and locations.
    - Public transportation and/or carpool options available in the area.

  - Educational material on the positive impacts of an interior relative humidity between 30-60% and what methods an occupants may use to maintain the relative humidity level in that range.
  - Information about water-conserving landscape and irrigation design and controllers which conserve water.
  - Instructions for maintaining gutters and downspouts and the importance of diverting water at least 5 feet away from the foundation.
  - Information about state solar energy and incentive programs available.
  - A copy of all special inspection verifications required by the enforcing agency of this code.
  - Information from CALFIRE on maintenance of defensible space around residential structures.
- Any installed gas fireplace shall be direct-vent sealed-combustion type. Any installed woodstove or pellet stove shall comply with U.S. EPA New Source Performance Standards (NSPS) emission limits as applicable, and shall have a permanent label indicating they are certified to meet the emission limits. Woodstoves, pellet stoves and fireplaces shall also comply with applicable local ordinances.
- Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the CARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat, or Nonflat-high Gloss coating, based on its glass, as defined in subsections 4.21, 4.36, and 4.37 of the 2007 CARB, Suggested Control Measure, and the corresponding Flat, Nonflat, Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.

NONRESIDENTIAL MANDATORY MEASURES

- Short-term bicycle parking. If the new project or an additional alteration is anticipated to generate visitor traffic, provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5% of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack (5.106.4.1.1).
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5% of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility (5.106.4.1.2).
- EV charging stations. New construction shall facilitate the future installation of EV supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load. The number of spaces to be provided for is contained in Table 5.106. 5.3.1 (5.106.5.3). Alternatively, the power allocation method may be used as an alternative to the requirements mentioned in Section 5.106.5.1, and associated Table 5.106.5.3. Use of Table 5.106.5.3.6 to can be used to determine the total power in kVA required based on the total number of actual parking spaces. Additionally, Table 5.106.5.5.1 specifies requirements for the installation of raceway conduit and panel power requirements for medium- and heavy-duty EV supply equipment for warehouses, grocery stores, and retail stores.

- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight and glare ratings per Table 5.106.8 (5.106.8).
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65% of the nonhazardous construction and demolition waste in accordance with Section 5.408.1.1. 5.405.1.2, or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent (5.408.1).
- Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled. For a phased project, such material may be stockpiled on site until the storage site is developed (5.408.3).
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive (5.410.1).
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush (5.303.3.1).
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush (5.303.3.2.1). The effective flush volume of floor- mounted or other urinals shall not exceed 0.5 gallons per flush (5.303.3.2.2).
    - Showerheads. Single showerheads shall have a minimum flow rate of not more than 1.8 gallons per minute and 80 psi (5.303.3.3.1). When a shower is served by more than one showerhead, the combined flow rate of all showerheads and/or other shower outlets controlled by a single valve shall not exceed 1.8 gallons per minute at 80 psi (5.303.3.3.2).
    - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi (5.303.3.4.1). Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi (5.303.3.4.2). Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute (5.303.3.4.3). Metering faucets shall not deliver more than 0.20 gallons per cycle (5.303.3.4.4). Metering faucets for wash fountains shall have a maximum flow rate not more than 0.20 gallons per cycle (5.303.3.4.5).
- Outdoor potable water uses in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient Landscape Ordinance (MWELO), whichever is more stringent (5.304.1).
- Water meters. Separate submeters or metering devices shall be installed for new buildings or additions in excess of 50,000 sf or for excess consumption where any tenant within a new building or within an addition that is projected to consume more than 1,000 gallons per day (GPD) (5.303.1.1 and 5.303.1.2).
- Outdoor water uses in rehabilitated landscape projects equal or greater than 2,500 sf. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 sf requiring a building or landscape permit (5.304.3).

- Commissioning. For new buildings 10,000 sf and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements (5.410.2).

AIR QUALITY MANAGEMENT PLANNING (AQMP)

Currently, the NAAQS and CAAQS are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards (23). AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy. A detailed discussion on the AQMP and Project consistency with the AQMP is provided in Section 5.8.

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4 SIGNIFICANCE THRESHOLDS

The criteria used to determine the significance of potential Project-related air quality impacts are taken from the *Initial Study Checklist in Appendix G of the State CEQA Guidelines* (14 CCR §§ 15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (1):

- Conflict with or obstruct implementation of the applicable air quality plan.
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard.
- Expose sensitive receptors to substantial pollutant concentrations.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

4.1 REGIONAL SIGNIFICANCE THRESHOLDS

The SCAQMD has also developed regional significance thresholds for other regulated pollutants, as summarized at Table 3-1 (24). The SCAQMD's *CEQA Air Quality Significance Thresholds* (March 2023) indicate that any projects in the SCAB with daily emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact.

TABLE 4-1: MAXIMUM DAILY REGIONAL EMISSIONS THRESHOLDS

Pollutant	Construction Regional Thresholds	Operational Regional Thresholds
NO_X	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM_{10}	150 lbs/day	150 lbs/day
$PM_{2.5}$	55 lbs/day	55 lbs/day
SO_X	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Pb	3 lbs/day	3 lbs/day

lbs/day = Pounds Per Day
Source: Regional Thresholds presented in this table are based on the SCAQMD Air Quality Significance Thresholds, March 2023

4.2 LOCALIZED SIGNIFICANCE THRESHOLDS

The analysis makes use of methodology included in the SCAQMD *Final Localized Significance Threshold Methodology* (*LST Methodology*) (25). The SCAQMD has established that impacts to air quality are significant if there is a potential to contribute or cause localized exceedances of the NAAQS and CAAQS. Collectively, these are referred to as Localized Significance Thresholds (LSTs).

The SCAQMD established LSTs in response to the SCAQMD Governing Board's Environmental Justice Initiative I-4[5]. LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standard at the nearest residence or sensitive receptor. The SCAQMD states that lead agencies can use the LSTs as another indicator of significance in its air quality impact analyses.

LSTs were developed in response to environmental justice and health concerns raised by the public regarding exposure of individuals to criteria pollutants in local communities. To address the issue of localized significance, the SCAQMD adopted LSTs that show whether a project would cause or contribute to localized air quality impacts and thereby cause or contribute to potential localized adverse health effects. The analysis makes use of methodology included in the *LST Methodology* (26).

4.2.1 APPLICABILITY OF LSTS FOR THE PROJECT

For this Project, the appropriate SRA for the LST analysis is Perris Valley (SRA 24). LSTs apply to CO, NO_X, PM_{10}, and $PM_{2.5}$. The SCAQMD produced look-up tables for projects less than or equal to 5 acres in size, however the look-up tables can be applied as a screening criterion for larger projects (see additional discussion in Section 4.2.2).

In order to determine the appropriate methodology for determining localized impacts that could occur as a result of Project-related construction, the following process is undertaken:

Identify the maximum daily on-site emissions that will occur during construction activity:

- The maximum daily on-site emissions could be based on information provided by the Project Applicant; or
- The SCAQMD's Fact Sheet for Applying CalEEMod to Localized Significance Thresholds and CalEEMod User's Guide Appendix A: Calculation Details for CalEEMod can be used to determine the maximum site acreage that is actively disturbed based on the construction equipment fleet and equipment hours as estimated in CalEEMod (27) (28).

If the total acreage disturbed is less than or equal to 5 acres per day, then the SCAQMD's screening look-up tables are utilized to determine if a Project has the potential to result in a significant impact. The look-up tables establish a maximum daily emissions threshold in lbs/day that can be compared to CalEEMod outputs.

If the total acreage disturbed is greater than 5 acres per day, then LST impacts may still be conservatively evaluated using the LST look-up tables for a 5-acre disturbance area. Use of the 5-acre disturbance area thresholds can be used to show that even if the daily emissions from all construction activity were emitted within a 5-acre area, and therefore concentrated over a smaller area which would result in greater site adjacent concentrations, the impacts would still be less than significant if the applicable 5-acre thresholds are utilized.

[5] The purpose of SCAQMD's Environmental Justice program is to ensure that everyone has the right to equal protection from air pollution and fair access to the decision-making process that works to improve the quality of air within their communities. Further, the SCAQMD defines Environmental Justice as "…equitable environmental policymaking and enforcement to protect the health of all residents, regardless of age, culture, ethnicity, gender, race, socioeconomic status, or geographic location, from the health effects of air pollution."

The LST Methodology presents mass emission rates for each SRA, project sizes of 1, 2, and 5 acres, and nearest receptor distances of 25, 50, 100, 200, and 500 meters. For project sizes between the values given, or with receptors at distances between the given receptors, the methodology uses linear interpolation to determine the thresholds.

4.2.1.1 MAXIMUM DAILY DISTURBED-ACREAGE

As a conservative measure, it is assumed that a maximum of 20 acres per day can be actively disturbed. In CalEEMod, the Total Acres Graded (TAG) field represents the cumulative distance traversed on the property by the grading equipment. In order to properly grade a piece of land, multiple passes with grading equipment may be required. So even though the lot size is a fixed number of acres, the TAG could be an order of magnitude higher than the footprint of the lot (28). TAG is a function of the maximum acreage disturbed per day times the number of days of the subphase of construction. As such, the "Total Acres Graded" field in CalEEMod has been revised to 320acres for site preparation (20 acres disturbed per day x 16 working days) and 1,680 acres for grading activities (20 acres disturbed per day x 84 working days) [6].

4.2.1.2 SENSITIVE RECEPTORS

As previously stated, LSTs represent the maximum emissions from a project that will not cause or contribute to an exceedance of the most stringent applicable NAAQS and CAAQS at the nearest residence or sensitive receptor. Receptor locations are off-site locations where individuals may be exposed to emissions from Project activities.

RESIDENTIAL RECEPTORS

Some people are especially sensitive to air pollution and are given special consideration when evaluating air quality impacts from projects. These groups of people include children, the elderly, individuals with pre-existing respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise. Structures that house these persons or places where they gather to exercise are defined as "sensitive receptors". These structures typically include residences, hotels, hospitals, etc. as they are also known to be locations where an individual can remain for 24 hours. Consistent with the LST Methodology, the nearest land use where an individual could remain for 24 hours to the Project site (in this case the nearest residential land use) has been used to determine construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$, since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time.

NON-RESIDENTIAL RECEPTORS

As per the LST Methodology, commercial and industrial facilities are not included in the definition of sensitive receptor because employees and patrons do not typically remain onsite for a full 24 hours but are typically onsite for 8 hours or less. The LST Methodology explicitly states that "*LSTs based on shorter averaging periods, such as the NO_2 and CO LSTs, could also be applied to receptors such as industrial or commercial facilities since it is reasonable to assume that a worker at these sites could be present for periods of one to eight hours* (25)." For purposes of analysis, if an industrial/commercial use is located at a closer distance to the Project site than the nearest

[6] CalEEMod does not provide a "Total Acres Graded" field for Building Construction, Paving, or Architectural Coating activities.

residential use, the nearest industrial/commercial use will be utilized to determine construction and operational LST air impacts for emissions of NO_2 and CO where an individual could be present at these sites for periods of 1 to 8 hours.

PROJECT-RELATED SENSITIVE RECEPTORS

Sensitive receptors in the Project study area are described below:

R1: Location R1 represents the existing residence at 26873 Campus Point Drive, approximately 92 feet north of the Project site. R1 is placed in the private outdoor living areas (backyard) facing the Project site.

R2: Location R2 represents the existing residence at 13760 Nason Street, approximately 164 feet east of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receptor R2 is placed at the building façade.

R3: Location R3 represents the existing residence at 13980 Nason Street, approximately 211 feet east of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receptor R3 is placed at the building façade

R4: Location R4 represents the existing residence at 26871 Alessandro Boulevard, approximately 453 feet south of the Project site. R4 is placed in the private outdoor living areas (backyard) facing the Project site.

R5: Location R5 represents the Valley Christian Academy located at 26755 Alessandro, approximately 163 feet south of the Project site. Since there are no private outdoor living areas facing the Project site, receptor R5 is placed at the building façade.

R6: Location R6 represents the existing residence at 26606 Danube Way, approximately 675 feet west of the Project site. R6 is placed in the private outdoor living areas (backyard) facing the Project site.

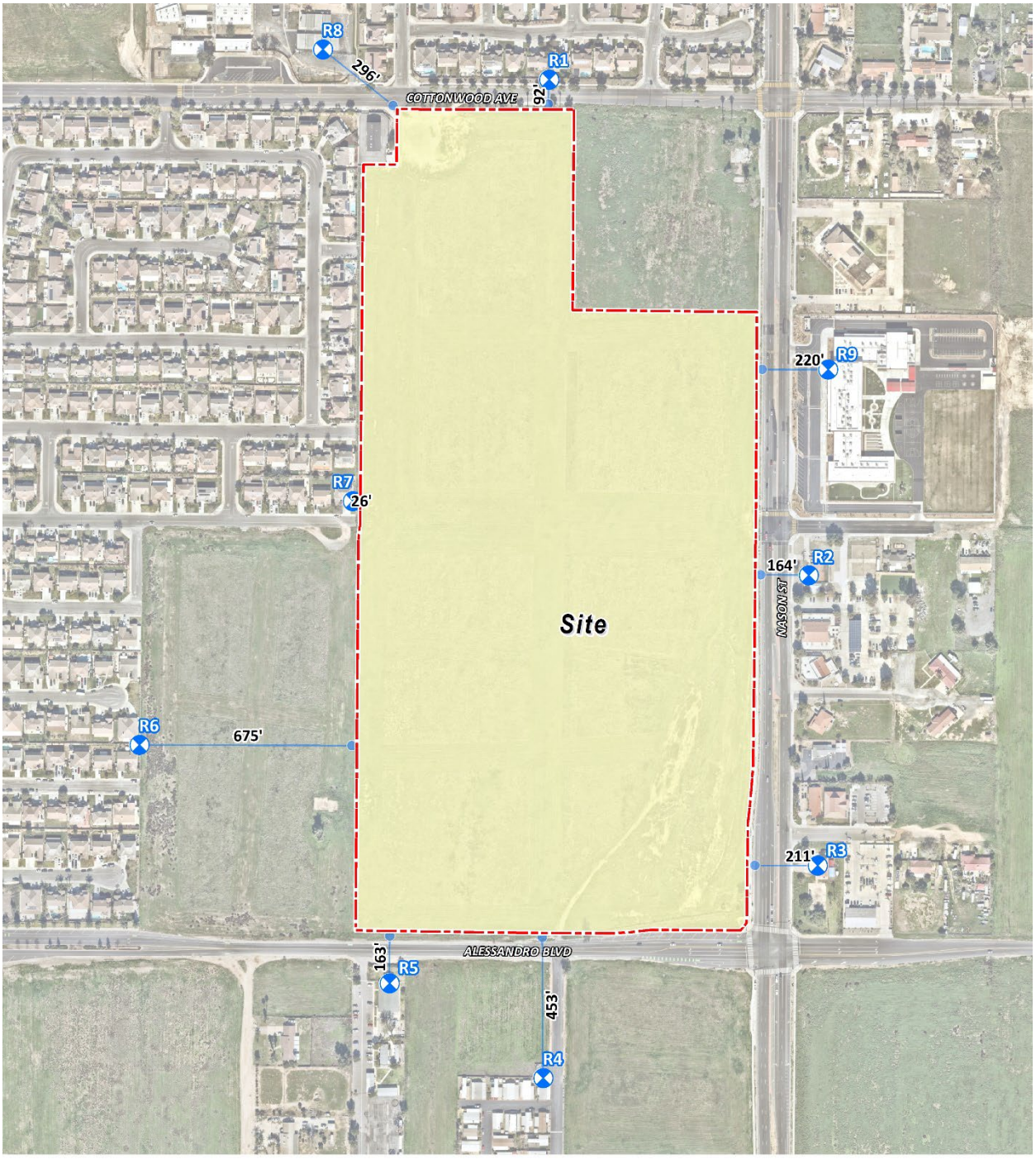
R7: Location R7 represents the existing residence at 26722 Bay Avenue, approximately 26 feet west of the Project site. Since there are no private outdoor living areas (backyards) facing the Project site, receptor R7 is placed at the building façade.

R8: Location R8 represents the Moreno Valley Unified School District Early Learning Academy located at 26700 Cottonwood Avenue, approximately 296 feet northwest of the Project site. R8 is placed at the closest classroom.

R9: Location R9 represents the relocated Moreno Elementary School located at 13700 Nason Street, approximately 220 feet east of the Project site. R9 is placed at the building façade facing the Project.

The SCAQMD recommends that the nearest sensitive receptor be considered when determining the Project's potential to cause an individual a cumulatively significant impact. The nearest land use where an individual could remain for 24 hours to the Project site has been used to determine localized construction and operational air quality impacts for emissions of PM_{10} and $PM_{2.5}$ (since PM_{10} and $PM_{2.5}$ thresholds are based on a 24-hour averaging time). The nearest receptor used for evaluation of localized impacts of PM_{10} and $PM_{2.5}$ is represented by location R7 which represents the existing residence at 26722 Bay Avenue, approximately 26 feet/8 meters west of the Project site.

EXHIBIT 4-A: SENSITIVE RECEPTOR LOCATIONS



As previously stated, and consistent with LST Methodology, the nearest industrial/commercial use to the Project site is used to determine construction and operational LST air impacts for emissions of NO_X and CO as the averaging periods for these pollutants are shorter (8 hours or less) and it is reasonable to assumed that an individual could be present at these sites for periods of one to 8 hours. As there are no industrial/commercial receptors located at a closer distance than the nearest residential home, the same residence located at 26722 Bay Avenue (location R7) will be used for evaluation of localized impacts of NO_X and CO.

It should be noted that the *LST Methodology* explicitly states that "*It is possible that a project may have receptors closer than 25 meters. Projects with boundaries located closer than 25 meters to the nearest receptor should use the LSTs for receptors located at 25 meters* (25)." As such a 25-meter receptor distance will be used for evaluation of localized PM_{10}, $PM_{2.5}$, NO_X, and CO.

4.2.2 LOCALIZED THRESHOLDS FOR CONSTRUCTION ACTIVITY

As previously stated, this analysis conservatively assumes that more than five acres will be disturbed per day. It should be noted that the *LST Methodology* provides look-up tables for sites with an area with daily disturbance of 5 acres or less. For projects that exceed 5 acres, the 5-acre LST look-up tables can be used as a screening tool to determine which pollutants require additional detailed analysis. This approach is conservative as it assumes that all on-site emissions associated with the project would occur within a concentrated 5-acre area. This screening method would therefore over-predict potential localized impacts, because by assuming that on-site construction activities are occurring over a smaller area, the resulting concentrations of air pollutants are more highly concentrated once they reach the smaller site boundary than they would be for activities if they were spread out over a larger surface area. On a larger site, the same amount of air pollutants generated would disperse over a larger surface area and would result in a lower concentration once emissions reach the project-site boundary. As such, LSTs for a 5-acre site during construction are used as a screening tool to determine if further detailed analysis is required. The thresholds used for the construction-source LST analysis are presented below in Table 4-2.

TABLE 4-2: MAXIMUM DAILY LOCALIZED CONSTRUCTION EMISSIONS THRESHOLDS

Construction Localized Thresholds			
NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
270 lbs/day	1,577 lbs/day	13 lbs/day	8 lbs/day

Source: Localized Thresholds presented in this table are based on the SCAQMD *LST Methodology*, July 2008

4.2.3 LOCALIZED THRESHOLDS FOR OPERATIONAL ACTIVITY

According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed Project, if the Project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The proposed Project does not include such uses, and thus, due to the lack of significant stationary source emissions, no long-term localized significance threshold analysis is needed.

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5 AIR QUALITY IMPACTS

5.1 INTRODUCTION

The Project has been evaluated to determine if it will violate an air quality standard, contribute to an existing or projected air quality violation, or result in a cumulatively considerable net increase of a criteria pollutant for which the SCAB is non-attainment under an applicable NAAQS and CAAQS. Additionally, the Project has been evaluated to determine consistency with the applicable AQMP, exposure of sensitive receptors to substantial pollutant concentrations, and the impacts of odors.

5.2 METHODOLOGY

5.2.1 CALEEMOD

Land uses such as the Project affect air quality through construction-source and operational-source emissions.

The California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including SCAQMD, released CalEEMod 2022 in May 2022. CalEEMod periodically releases updates, as such the latest version available at the time of this report (2022.1.1.29) has been utilized in this analysis. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from MMs (29). Accordingly, the latest version of CalEEMod has been used for this Project to determine construction and operational air quality emissions. Output from the model runs for both construction and operational activity are provided in Appendices 5.1 through 5.3.

5.3 REGIONAL CONSTRUCTION EMISSIONS

5.3.1 CONSTRUCTION ACTIVITIES

Construction activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Construction related emissions are expected from the following construction activities:

- Site Preparation
- Grading
- Building Construction
- Paving
- Architectural Coating

GRADING ACTIVITIES

Dust is typically a major concern during grading activities. Because such emissions are not amenable to collection and discharge through a controlled source, they are called "fugitive emissions". Fugitive dust emissions rates vary as a function of many parameters (soil silt, soil moisture, wind speed, area disturbed, number of vehicles, depth of disturbance or excavation, etc.). CalEEMod was utilized to calculate fugitive dust emissions resulting from this phase of activity. Based on information provided by the Project Applicant, the Project will balance on-site.

OFF-SITE INFRASTRUCTURE IMPROVEMENTS

The on-site utilities would be trenched and installed within the Project site. With the exception of the storm drain infrastructure, the on-site utilities would connect to the existing utilities within the site adjacent roadways. In addition, to support the Project development, there will be construction of a new off-site storm drain along Alessandro Boulevard, which forms the southern boundary of the Project site. The new storm drain would extend between proposed Street A and the existing storm drain located approximately 650 feet to the west of the Project site westerly boundary. Off-site impacts along Cottonwood Avenue, Nason Street, Alessandro Boulevard, and Bay Avenue adjacent to the Project site would be associated with the construction of sidewalks, curbs, and gutters; roadway extensions (Bay Avenue); landscaping within the public right-of-way; and any other roadway repairs/improvements required for the Project. It is expected that the off-site construction activities would not take place at one location for the entire duration of construction. The pollutant emissions associated with construction of the off-site storm drain and roadway improvements are not expected to exceed the peak daily emissions identified for Project-related construction activities due to the limited amount of construction activities associated with these Project components. The physical limits of these off-site improvements would limit the amount of construction equipment that could be used, and any off-site and utility infrastructure construction would not use equipment totals that would exceed the equipment totals on Table 5-2. As such, no impacts beyond what has already been identified in this report are expected to occur.

CONSTRUCTION WORKER VEHICLE TRIPS

Construction emissions for construction worker vehicles traveling to and from the Project site, as well as vendor trips (construction materials delivered to the Project site) were estimated based on information from CalEEMod defaults.

5.3.2 CONSTRUCTION DURATION

For purposes of analysis, construction is expected to commence in November 2025 and to last through October 2028 The construction schedule utilized in the analysis, shown in Table 5-1, represents a "conservative" analysis scenario should construction occur any time after the respective dates since emission factors for construction decrease as time passes and the analysis

year increases due to emission regulations becoming more stringent.[7] The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per *CEQA Guidelines* (1).

[7] As shown in the CalEEMod User's Guide Version 2022, Appendix G "Table G-11. Statewide Average Annual Offoad Equipment Emission Factors" as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

TABLE 5-1: ESTIMATED CONSTRUCTION SCHEDULE

Construction Activity	Start Date	End Date	Days
Site Preparation	11/5/2025	11/26/2025	16
Grading	11/26/2025	03/23/2026	84
Building Construction	03/23/2026	11/6/2028	686
Paving	07/23/2026	11/6/2026	77
Architectural Coating	08/23/2028	11/6/2028	54

5.3.3 CONSTRUCTION EQUIPMENT

Site specific construction fleet may vary due to specific project needs at the time of construction. A detailed summary of construction equipment assumptions by phase is provided at Table 5-2.

The Municipal Code limits construction activities in two parts of the code: Sections 8.14.040(E) and 11.80.030(D)(7). Section 8.14.040(E) states that construction within the city shall only occur from 7:00 a.m. to 7:00 p.m. from Monday through Friday excluding holidays and from 8:00 a.m. to 4:00 p.m. on Saturdays. Section 11.80.030(D)(7) states that no person shall operate or cause the operation of any tools or equipment used in construction, drilling, repair, alteration, or demolition work between the hours of 8:00 p.m. and 7:00 a.m. such that the sound creates a noise disturbance. Consistent with industry standards and typical construction practices, for purposes of analysis it is estimated that each piece of equipment listed in Table 5-2 will operate up to a total of eight (8) hours per day, or approximately two-thirds of the period during which construction activities are allowed pursuant to the code. It should be noted that most pieces of equipment would likely operate for fewer hours per day.

TABLE 5-2: CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Activity	Equipment	Amount	Hours Per Day	Horsepower	Load Factor
Site Preparation	Crawler Tractors	4	8	87	0.43
	Rubber Tired Dozers	3	8	367	0.40
Grading	Crawler Tractors	2	8	87	0.43
	Excavators	2	8	36	0.38
	Graders	1	8	148	0.41
	Rubber Tired Dozers	1	8	367	0.40
	Scrapers	2	8	423	0.48
Building Construction	Cranes	2	8	367	0.29
	Forklifts	5	8	82	0.20
	Generator Sets	2	8	14	0.74
	Tractors/Loaders/Backhoes	5	8	84	0.37
	Welders	2	8	46	0.45
Paving	Pavers	2	8	81	0.42
	Paving Equipment	2	8	89	0.36
	Rollers	2	8	36	0.38
Architectural Coating	Air Compressors	1	8	37	0.48

5.3.4 ON-ROAD TRIPS

Construction generates on-road vehicle emissions from vehicle usage for workers and vendors commuting to and from the site. The number of workers and vendor trips are presented below in Table 5-3.

TABLE 5-3: CONSTRUCTION TRIP ASSUMPTIONS

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day
Site Preparation	18	3
Grading	20	13
Building Construction	372	107
Paving	15	0
Architectural Coating	74	0

5.3.5 CONSTRUCTION EMISSIONS SUMMARY

IMPACTS WITHOUT MITIGATION

CalEEMod calculates maximum daily emissions for summer and winter periods. As such, the estimated maximum daily construction emissions without mitigation for both summer and winter periods are summarized on Table 5-4. Detailed unmitigated construction model outputs are presented in Appendix 5.1. Under the assumed scenarios, emissions resulting from the Project construction will exceed criteria pollutant thresholds established by the SCAQMD for VOC.

IMPACTS WITH MITIGATION

As previously stated, the Project will implement MM 1 which would reduce the severity of the VOC impacts as well as further reduce emissions associated with NOx.

MM 1

The project shall incorporate the following measures to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City:

- Require fugitive-dust control measures that exceed SCAQMD's Rule 403 requirements, such as:
    - Use of nontoxic soil stabilizers to reduce wind erosion.
    - Tarp and/or maintain a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Encourage the use of construction equipment equal to or greater than 50 horsepower be electrically powered or alternatively fueled. At a minimum, use construction equipment rated by the United States Environmental Protection Agency as having Tier 4 Final (model year 2008 or newer) emission limits. Include this requirement in applicable bid documents, purchase orders, and contracts.
- Ensure that construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limit nonessential idling of construction equipment to no more than five consecutive minutes.
- Limit on-site vehicle travel speeds on unpaved roads to 15 miles per hour.
- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area.
- Use Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufacturers can be found on SCAQMD's website.

As shown in Table 5-5, after implementation MM 1, Project construction-source emissions of VOC would not exceed applicable SCAQMD thresholds and NO_x emissions would be further reduced. Detailed mitigated construction model outputs are presented in Appendix 5.2.

TABLE 5-4: MAXIMUM DAILY CONSTRUCTION EMISSIONS – WITHOUT MITIGATION

Year	Construction Activity	Source	Total Construction-Source Emissions (lbs/day)					
			VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer[1]								
2026	Grading	Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Worker, Vendor, Hauling Trips	0.00	0.00	0.00	0.00	0.00	0.00
	Grading Construction Emissions Totals		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	Building Construction	Construction Equipment	2.14	19.63	25.19	0.05	0.75	0.69
		Worker, Vendor, Hauling Trips	1.64	4.90	27.80	0.02	5.83	1.44
	Building Construction Emissions Totals		**2.39**	**22.30**	**25.50**	**0.05**	**0.98**	**0.90**
	Paving	Construction Equipment	1.20	7.12	9.94	0.01	0.32	0.29
		Worker, Vendor, Hauling Trips	0.06	0.06	1.08	0.00	0.20	0.05
	Paving Emissions Totals		**1.27**	**7.18**	**11.02**	**0.01**	**0.52**	**0.34**
Total Summer 2026 Emissions			**5.05**	**31.71**	**64.00**	**0.09**	**7.10**	**2.47**
2027	Building Construction	Construction Equipment	2.06	18.73	25.13	0.05	0.67	0.62
		Worker, Vendor, Hauling Trips	1.56	4.60	25.77	0.02	5.83	1.44
	Building Construction Emissions Totals		**3.62**	**23.33**	**50.90**	**0.07**	**6.50**	**2.06**
Total Summer 2027 Emissions			**3.62**	**23.33**	**50.90**	**0.07**	**6.50**	**2.06**
2028	Building Construction	Construction Equipment	1.98	17.77	25.12	0.05	0.60	0.55
		Worker, Vendor, Hauling Trips	1.51	4.43	24.06	0.02	5.83	1.44
	Building Construction Emissions Totals		**3.50**	**22.20**	**49.18**	**0.07**	**6.43**	**2.00**
	Architectural Coating	Construction Equipment	189.68	1.08	1.49	0.00	0.02	0.02
		Worker, Vendor, Hauling Trips	0.29	0.26	4.61	0.00	0.97	0.23
	Architectural Coating Emissions Totals		**189.97**	**1.33**	**6.10**	**0.00**	**0.99**	**0.25**
Total Summer 2028 Emissions			**193.46**	**23.54**	**55.28**	**0.07**	**7.43**	**2.24**

Year	Construction Activity	Source	Total Construction-Source Emissions (lbs/day)					
			VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Winter								
2025	Site Preparation	Construction Equipment	4.05	37.46	32.43	0.05	7.59	4.46
		Worker, Vendor, Hauling Trips	0.08	0.19	1.05	0.00	0.26	0.06
	Site Preparation Emissions Totals		**4.13**	**37.65**	**33.48**	**0.05**	**7.85**	**4.52**
	Grading	Construction Equipment	3.57	32.59	29.44	0.06	4.19	2.38
		Worker, Vendor, Hauling Trips	0.09	0.55	1.31	0.00	0.38	0.10
	Grading Emissions Totals		**3.66**	**33.14**	**30.74**	**0.06**	**4.56**	**2.47**
Total Winter 2025 Emissions			**7.79**	**70.80**	**64.23**	**0.12**	**12.41**	**7.00**
2026	Grading	Construction Equipment	3.39	29.95	28.67	0.06	4.05	2.25
		Worker, Vendor, Hauling Trips	0.09	0.52	1.22	0.00	0.38	0.10
	Grading Construction Emissions Totals		**3.48**	**30.47**	**29.89**	**0.06**	**4.43**	**2.35**
	Building Construction	Construction Equipment	2.14	19.63	25.19	0.05	0.75	0.69
		Worker, Vendor, Hauling Trips	1.55	5.22	21.37	0.02	5.83	1.44
	Building Construction Emissions Totals		**3.69**	**24.85**	**46.56**	**0.07**	**6.58**	**2.13**
	Paving	Construction Equipment	1.20	7.12	9.94	0.01	0.32	0.29
		Worker, Vendor, Hauling Trips	0.06	0.07	0.82	0.00	0.20	0.05
	Paving Emissions Totals		**1.26**	**7.18**	**10.75**	**0.01**	**0.52**	**0.34**
Total Winter 2026 Emissions			**8.43**	**62.51**	**87.20**	**0.15**	**11.53**	**4.82**
2027	Building Construction	Construction Equipment	2.06	18.73	25.13	0.05	0.67	0.62
		Worker, Vendor, Hauling Trips	1.47	4.92	19.76	0.02	5.83	1.44
	Building Construction Emissions Totals		**3.53**	**23.65**	**44.89**	**0.07**	**6.50**	**2.06**
Total Winter 2027 Emissions			**3.53**	**23.65**	**44.89**	**0.07**	**6.50**	**2.06**
2028	Building Construction	Construction Equipment	1.98	17.77	25.12	0.05	0.60	0.55
		Worker, Vendor, Hauling Trips	1.42	4.75	18.47	0.02	5.83	1.44
	Building Construction Emissions Totals		**3.41**	**22.52**	**43.60**	**0.07**	**6.43**	**2.00**

Year	Construction Activity	Source	Total Construction-Source Emissions (lbs/day)					
			VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
	Architectural Coating	Construction Equipment	189.68	1.08	1.49	0.00	0.02	0.02
		Worker, Vendor, Hauling Trips	0.27	0.29	3.49	0.00	0.97	0.23
	Architectural Coating Emissions Totals		**189.95**	**1.37**	**4.98**	**0.00**	**0.99**	**0.25**
Total Winter 2028 Emissions			**193.36**	**23.89**	**48.57**	**0.07**	**7.43**	**2.24**
Maximum Daily Emissions								
Construction Maximum Total Daily Emissions (2025)			**7.79**	**70.80**	**64.23**	**0.12**	**12.41**	**7.00**
Construction Maximum Total Daily Emissions (2026)			**8.43**	**62.51**	**87.20**	**0.15**	**11.53**	**4.82**
Construction Maximum Total Daily Emissions (2026)			**3.62**	**23.65**	**50.90**	**0.07**	**6.50**	**2.06**
Construction Maximum Total Daily Emissions (2027)			**193.46**	**23.89**	**55.28**	**0.07**	**7.43**	**2.24**
Maximum Daily Emissions			***193.46***	***70.80***	***87.20***	***0.15***	***12.41***	***7.00***
SCAQMD Regional Threshold			75	100	550	150	150	55
Threshold Exceeded?			**YES**	**NO**	**NO**	**NO**	**NO**	**NO**

[1] It should be noted that because construction starts in Nov 2025 during the winter season, emissions would occur during the winter season and not for summer season for 2025.

TABLE 5-5: MAXIMUM DAILY CONSTRUCTION EMISSIONS – WITH MITIGATION

Year	Construction Activity	Source	Total Construction-Source Emissions (lbs/day)					
			VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Summer[1]								
2026	Grading	Construction Equipment	0.00	0.00	0.00	0.00	0.00	0.00
		Worker, Vendor, Hauling Trips	0.00	0.00	0.00	0.00	0.00	0.00
	Grading Construction Emissions Totals		**0.00**	**0.00**	**0.00**	**0.00**	**0.00**	**0.00**
	Building Construction	Construction Equipment	0.93	6.25	29.58	0.05	0.21	0.20
		Worker, Vendor, Hauling Trips	1.64	4.90	27.80	0.02	5.83	1.44
	Building Construction Emissions Totals		**2.58**	**11.15**	**57.38**	**0.07**	**6.04**	**1.64**
	Paving	Construction Equipment	0.82	2.35	10.60	0.01	0.10	0.09
		Worker, Vendor, Hauling Trips	0.06	0.06	1.08	0.00	0.20	0.05
	Paving Emissions Totals		**0.89**	**2.41**	**11.67**	**0.01**	**0.29**	**0.14**
Total Summer 2026 Emissions			**3.46**	**13.56**	**69.05**	**0.09**	**6.34**	**1.78**
2027	Building Construction	Construction Equipment	0.91	6.17	29.55	0.05	0.20	0.19
		Worker, Vendor, Hauling Trips	1.56	4.60	25.77	0.02	5.83	1.44
	Building Construction Emissions Totals		**2.47**	**10.77**	**55.32**	**0.07**	**6.03**	**1.63**
Total Summer 2027 Emissions			**2.47**	**10.77**	**55.32**	**0.07**	**6.03**	**1.63**
2028	Building Construction	Construction Equipment	0.89	6.09	29.53	0.05	0.19	0.18
		Worker, Vendor, Hauling Trips	1.51	4.43	24.06	0.02	5.83	1.44
	Building Construction Emissions Totals		**2.40**	**10.52**	**53.59**	**0.07**	**6.02**	**1.62**
	Architectural Coating	Construction Equipment	56.15	1.08	1.49	0.00	0.02	0.02
		Worker, Vendor, Hauling Trips	0.29	0.26	4.61	0.00	0.97	0.23
	Architectural Coating Emissions Totals		**56.44**	**1.33**	**6.10**	**0.00**	**0.99**	**0.25**
Total Summer 2028 Emissions			**58.84**	**11.86**	**59.69**	**0.07**	**7.01**	**1.87**

Year	Construction Activity	Source	Total Construction-Source Emissions (lbs/day)					
			VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Winter								
2025	Site Preparation	Construction Equipment	0.52	2.71	29.96	0.05	5.77	2.79
		Worker, Vendor, Hauling Trips	0.08	0.19	1.05	0.00	0.26	0.06
	Site Preparation Emissions Totals		**0.60**	**2.90**	**31.01**	**0.05**	**6.02**	**2.85**
	Grading	Construction Equipment	0.80	4.82	36.23	0.06	2.84	1.15
		Worker, Vendor, Hauling Trips	0.09	0.55	1.31	0.00	0.38	0.10
	Grading Emissions Totals		**0.89**	**5.37**	**37.53**	**0.06**	**3.22**	**1.25**
Total Winter 2025 Emissions			**1.49**	**8.27**	**68.55**	**0.12**	**9.24**	**4.10**
2026	Grading	Construction Equipment	0.80	4.80	36.23	0.06	2.84	1.14
		Worker, Vendor, Hauling Trips	0.09	0.52	1.22	0.00	0.38	0.10
	Grading Construction Emissions Totals		**0.88**	**5.32**	**37.45**	**0.06**	**3.22**	**1.24**
	Building Construction	Construction Equipment	0.93	6.25	29.58	0.05	0.20	0.20
		Worker, Vendor, Hauling Trips	1.55	5.22	21.37	0.02	5.83	1.44
	Building Construction Emissions Totals		**2.48**	**11.47**	**50.95**	**0.07**	**6.03**	**1.64**
	Paving	Construction Equipment	0.82	2.35	10.60	0.01	0.10	0.09
		Worker, Vendor, Hauling Trips	0.06	0.07	0.82	0.00	0.20	0.05
	Paving Emissions Totals		**0.88**	**2.42**	**11.41**	**0.01**	**0.29**	**0.14**
Total Winter 2026 Emissions			**4.25**	**19.21**	**99.81**	**0.15**	**9.54**	**3.02**
2027	Building Construction	Construction Equipment	0.91	6.17	29.55	0.05	0.20	0.19
		Worker, Vendor, Hauling Trips	1.47	4.92	19.76	0.02	5.83	1.44
	Building Construction Emissions Totals		**2.38**	**11.09**	**49.31**	**0.07**	**6.03**	**1.63**
Total Winter 2027 Emissions			**2.38**	**11.09**	**49.31**	**0.07**	**6.03**	**1.63**
2028	Building Construction	Construction Equipment	0.89	6.09	29.53	0.05	0.19	0.18
		Worker, Vendor, Hauling Trips	1.42	4.75	18.47	0.02	5.83	1.44
	Building Construction Emissions Totals		**2.32**	**10.84**	**48.00**	**0.07**	**6.02**	**1.62**

Year	Construction Activity	Source	Total Construction-Source Emissions (lbs/day)					
			VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
	Architectural Coating	Construction Equipment	56.15	1.08	1.49	0.00	0.02	0.02
		Worker, Vendor, Hauling Trips	0.27	0.29	3.49	0.00	0.97	0.23
	Architectural Coating Emissions Totals		**56.42**	**1.37**	**4.98**	**0.00**	**0.99**	**0.25**
Total Winter 2028 Emissions			**58.74**	**12.21**	**52.98**	**0.07**	**7.01**	**1.87**
Maximum Daily Emissions								
Construction Maximum Total Daily Emissions (2025)			**1.49**	**8.27**	**68.55**	**0.12**	**9.24**	**4.10**
Construction Maximum Total Daily Emissions (2026)			**4.25**	**19.21**	**99.81**	**0.15**	**9.54**	**3.02**
Construction Maximum Total Daily Emissions (2026)			**2.47**	**11.09**	**55.32**	**0.07**	**6.03**	**1.63**
Construction Maximum Total Daily Emissions (2027)			**58.84**	**12.21**	**59.69**	**0.07**	**7.01**	**1.87**
Maximum Daily Emissions			**58.84**	**19.21**	**99.81**	**0.15**	**9.54**	**4.10**
SCAQMD Regional Threshold			75	100	550	150	150	55
Threshold Exceeded?			**NO**	**NO**	**NO**	**NO**	**NO**	**NO**

[1] It should be noted that because construction starts in Nov 2025 during the winter season, emissions would occur during the winter season and not for summer season for 2025.

5.4 REGIONAL OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of VOCs, NO_X, SO_X, CO, PM_{10}, and $PM_{2.5}$. Operational emissions would be expected from the following primary sources:

- Area Source Emissions
- Energy Source Emissions
- Mobile Source Emissions

5.4.1 AREA SOURCE EMISSIONS

CalEEMod estimates area source emissions for the following sources: architectural coating, consumer products, and landscape maintenance equipment. Detailed operational model outputs are presented in Appendix 5.1.

ARCHITECTURAL COATING

Over a period of time, the buildings that are part of this Project will be subject to emissions resulting from the evaporation of solvents contained in paints, varnishes, primers, and other surface coatings as part of Project maintenance. The emissions associated with architectural coatings were calculated using CalEEMod.

CONSUMER PRODUCTS

Consumer products include, but are not limited to detergents, cleaning compounds, polishes, personal care products, and lawn and garden products. Many of these products contain organic compounds which when released in the atmosphere can react to form O_3 and other photochemically reactive pollutants. The emissions associated with use of consumer products were calculated based on defaults provided within CalEEMod.

LANDSCAPE MAINTENANCE EQUIPMENT

Landscape maintenance equipment would generate emissions from fuel combustion and evaporation of unburned fuel. Equipment in this category would include lawnmowers, shedders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. On October 9, 2021, Governor Gavin Newsom signed AB 1346, which aims to ban the sale of new gasoline-powered equipment under 25 gross hp (known as small off-road engines [SOREs]) by January 1, 2024, which is now in effect. However, for purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod and do not incorporate the emissions reductions from AB 1346.

5.4.2 ENERGY SOURCE EMISSIONS

Electricity and natural gas are used by almost every project. Criteria pollutant emissions are emitted through the generation of electricity and consumption of natural gas. However, because electrical generating facilities for the Project area are located either outside the region (state) or offset through the use of pollution credits (RECLAIM) for generation within the SCAB, criteria

pollutant emissions from offsite generation of electricity are generally excluded from the evaluation of significance and only natural gas use is considered. Detailed operational model outputs are presented in Appendix 5.1.

Project building operations and Project site maintenance activities would result in the consumption of natural gas and electricity. Natural gas would be supplied to the Project by Southern California Gas (SoCalGas) and electricity would be supplied to the Project by Moreno Valley Utility (MVU).

5.4.3 MOBILE SOURCE EMISSIONS

The Project related operational emissions derive primarily from vehicle trips generated by the Project. Trip characteristics available from the *Town Center at Moreno Valley Specific Plan (PEN21-0334 and PEN22-0077) Traffic Analysis* were utilized in this analysis (31). The mobile-source emissions were calculated based on trip rates and trip lengths. Detailed operational model outputs are presented in Appendix 5.1.

Per the *Town Center at Moreno Valley Specific Plan (PEN21-0334 and PEN22-0077) Traffic Analysis*, the Project is expected to generate a total of approximately 12,010[8] two-way vehicular trips per day (6,005 trips inbound and 6,005 trips outbound) (31).

5.4.3.1 APPROACH FOR ANALYSIS

TRIP RATES

The trip generation rates used for this analysis are consistent with the rates provided in the *Town Center at Moreno Valley Specific Plan (PEN21-0334 and PEN22-0077) Traffic Analysis* which are based upon information collected by the Institute of Transportation Engineers (ITE) as provided in the *Trip Generation Manual*, 11th Edition, 2021 (31).

TRIP LENGTHS

For all vehicle types (Light-Duty-Auto vehicles [LDA], Light-Duty Trucks [LDT1][9], Light-Duty Trucks [LDT2][10], Medium-Duty Trucks [MDV], Other Buses [OBUS[11]], Urban Buses [UBUS[12]], Motorcycle [MCY], School Buses [SBUS], and Motor Homes [MH], heavy duty trucks (2-axle/Light-Heavy-Duty Trucks [LHDT1[13] and LHDT2[14]], 3-axle/Medium-Heavy-Duty Trucks [MHDT], and 4+-axle/Heavy-Heavy-Duty Trucks [HHDT]), the CalEEMod default for a one-way trip length was used.

In order to determine emissions from passenger car vehicles, CalEEMod defaults for trip length and trip purpose were utilized (32). Default vehicle trip lengths for primary trips will be populated

[8] It should be noted that the total trips for each land use is modeled in CalEEMod and that the internal capture and pass-by trip reductions are credited within CalEEMod. As such, the model outputs present the gross trips for all land uses (e.g., 22,508 daily weekday trips), without the reduction of the internal capture and pass-by trips which are calculated internal to the model.

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

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

[11] OBUS vehicle classes refers to all other buses except school buses and urban buses.

[12] UBUS vehicle classes consist of natural gas buses, gasoline buses, and diesel buses.

[13] Vehicles under the LHDT1 category have a GVWR of less than 8,501-10,000 lbs.

[14] Vehicles under the LHDT2 category have a GVWR of less than 10,001-14,000 lbs.

using data from the local metropolitan planning organizations/Regional Transportation Planning Agencies (MPO/RTPA). Trip type percentages and trip lengths provided by MPO/RTPAs truncate data at their demonstrative borders.

FUGITIVE DUST RELATED TO VEHICULAR TRAVEL

Vehicles traveling on paved roads would be a source of fugitive emissions due to the generation of road dust inclusive of brake and tire wear particulates. The emissions estimates for travel on paved roads were calculated using CalEEMod.

5.4.4 OPERATIONAL EMISSIONS SUMMARY

Project mobile source emissions impacts are dependent on both overall daily vehicle trip generation and the effect of the Project on peak hour traffic volumes and traffic operations in the vicinity of the Project. The Project related operational air quality impacts derive primarily from vehicle trips generated by the Project.

The estimated operational-source emissions for the proposed Project are summarized on Table 5-6. Detailed operational model outputs are presented in Appendix 5.1. As shown, the proposed Project will exceed the applicable SCAQMD thresholds for VOC, NO_X, and CO.

TABLE 5-6: SUMMARY OF PEAK OPERATIONAL EMISSIONS

Source	Emissions (lbs/day)					
	VOC	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Summer						
Mobile Source	85.85	55.30	501.37	1.19	107.17	27.78
Area Source	45.07	13.78	61.09	0.09	1.11	1.10
Energy Source	0.52	9.03	4.61	0.06	0.72	0.72
Total Maximum Daily Emissions	**131.43**	**78.11**	**567.07**	**1.34**	**109.01**	**29.61**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**YES**	**NO**	**NO**	**NO**
Winter						
Mobile Source	80.24	59.11	440.56	1.12	107.17	27.79
Area Source	39.47	13.27	5.65	0.08	1.07	1.07
Energy Source	0.52	9.03	4.61	0.06	0.72	0.72
Total Maximum Daily Emissions	**120.23**	**81.41**	**450.81**	**1.26**	**108.97**	**29.58**
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	**YES**	**YES**	**NO**	**NO**	**NO**	**NO**

5.5 CONSTRUCTION-SOURCE LOCALIZED EMISSIONS

IMPACTS WITHOUT MITIGATION

The on-site construction emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ are compared to the respective LSTs as previously shown in Table 4-2. As shown in Table 5-7, Project localized construction-source emissions would not exceed the applicable LSTs for emissions for any criteria pollutant. Outputs from the model runs for construction LSTs are provided in Appendix 5.1.

TABLE 5-7: PROJECT LOCALIZED CONSTRUCTION EMISSIONS – WITHOUT MITIGATION

Construction Activity	Year	Scenario	Emissions (lbs/day)			
			NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation	2025	Summer	0.00	0.00	0.00	0.00
		Winter	37.46	32.43	7.59	4.46
		Maximum Daily Emissions	**37.46**	**32.43**	**7.59**	**4.46**
		SCAQMD Localized Threshold	270	1,577	13	8
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Grading	2025	Summer	0.00	0.00	0.00	0.00
		Winter	32.59	29.44	4.19	2.38
	2026	Summer	0.00	0.00	0.00	0.00
		Winter	29.95	28.67	4.05	2.25
		Maximum Daily Emissions	**32.59**	**29.44**	**4.19**	**2.38**
		SCAQMD Localized Threshold	270	1,577	13	8
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Building Construction	2026	Summer	19.63	25.19	0.75	0.69
		Winter	19.63	25.19	0.75	0.69
	2027	Summer	18.73	25.13	0.67	0.62
		Winter	18.73	25.13	0.67	0.62
	2028	Summer	17.77	25.12	0.60	0.55
		Winter	17.77	25.12	0.60	0.55
		Maximum Daily Emissions	**19.63**	**25.19**	**0.75**	**0.69**
		SCAQMD Localized Threshold	270	1,577	13	8
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Paving	2026	Summer	7.12	9.94	0.32	0.29
		Winter	7.12	9.94	0.32	0.29
		Maximum Daily Emissions	**7.12**	**9.94**	**0.32**	**0.29**
		SCAQMD Localized Threshold	270	1,577	13	8

Construction Activity	Year	Scenario	Emissions (lbs/day)			
			NO_X	CO	PM_{10}	$PM_{2.5}$
	Threshold Exceeded?		**NO**	**NO**	**NO**	**NO**
Architectural Coating	2028	Summer	1.08	1.49	0.02	0.02
		Winter	1.08	1.49	0.02	0.02
	Maximum Daily Emissions		**1.08**	**1.49**	**0.02**	**0.02**
	SCAQMD Localized Threshold		270	1,577	13	8
	Threshold Exceeded?		**NO**	**NO**	**NO**	**NO**

IMPACTS WITH MITIGATION

The on-site construction emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ with mitigation are compared to the respective LSTs as previously shown in Table 4-2. Although mitigation is not required for LSTs because the Project results in a less than significant impact without mitigation, MM 1 below is required for regional construction emissions and would also address localized construction emissions. Implementation MM 1 would further reduce localized impacts as shown on Table 5-8.

MM 1

The project shall incorporate the following measures to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City:

- Require fugitive-dust control measures that exceed SCAQMD's Rule 403 requirements, such as:
  - Use of nontoxic soil stabilizers to reduce wind erosion.
  - Apply water every four hours to active soil-disturbing activities
  - Tarp and/or maintain a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Encourage the use of construction equipment equal to or greater than 50 horsepower be electrically powered or alternatively fueled. At a minimum, use construction equipment rated by the United States Environmental Protection Agency as having Tier 4 Final (model year 2008 or newer) emission limits, Include this requirement in applicable bid documents, purchase orders, and contracts.
- Ensure that construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limit nonessential idling of construction equipment to no more than five consecutive minutes.
- Limit on-site vehicle travel speeds on unpaved roads to 15 miles per hour.
- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area.

- Use Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super-Compliant architectural coating manufacturers can be found on SCAQMD's website.

As shown in Table 5-8, with implementation of mitigation, Project localized construction-source emissions would be further reduced. Outputs from the model runs for construction LSTs are provided in Appendix 5.2.

TABLE 5-8: PROJECT LOCALIZED CONSTRUCTION EMISSIONS – WITH MITIGATION (1 OF 2)

Construction Activity	Year	Scenario	Emissions (lbs/day)			
			NO_X	CO	PM_{10}	$PM_{2.5}$
Site Preparation	2025	Summer	0.00	0.00	0.00	0.00
		Winter	2.71	29.96	5.77	2.79
		Maximum Daily Emissions	**2.71**	**29.96**	**5.77**	**2.79**
		SCAQMD Localized Threshold	270	1,577	13	8
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Grading	2025	Summer	0.00	0.00	0.00	0.00
		Winter	4.82	36.23	2.84	1.15
	2026	Summer	0.00	0.00	0.00	0.00
		Winter	4.80	36.23	2.84	1.14
		Maximum Daily Emissions	**4.82**	**36.23**	**2.84**	**1.15**
		SCAQMD Localized Threshold	270	1,577	13	8
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Building Construction	2026	Summer	6.25	29.58	0.21	0.20
		Winter	6.25	29.58	0.20	0.20
	2027	Summer	6.17	29.55	0.20	0.19
		Winter	6.17	29.55	0.20	0.19
	2028	Summer	6.09	29.53	0.19	0.18
		Winter	6.09	29.53	0.19	0.18
		Maximum Daily Emissions	**6.25**	**29.58**	**0.21**	**0.20**
		SCAQMD Localized Threshold	270	1,577	13	8
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**
Paving	2026	Summer	2.35	10.60	0.10	0.09
		Winter	2.35	10.60	0.10	0.09
		Maximum Daily Emissions	**2.35**	**10.60**	**0.10**	**0.09**
		SCAQMD Localized Threshold	270	1,577	13	8
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

Construction Activity	Year	Scenario	Emissions (lbs/day)			
			NO_X	CO	PM_{10}	$PM_{2.5}$
Architectural Coating	2028	Summer	1.08	1.49	0.02	0.02
		Winter	1.08	1.49	0.02	0.02
		Maximum Daily Emissions	**1.08**	**1.49**	**0.02**	**0.02**
		SCAQMD Localized Threshold	270	1,577	13	8
		Threshold Exceeded?	**NO**	**NO**	**NO**	**NO**

5.6 OPERATIONAL-SOURCE LOCALIZED EMISSIONS

As previously stated, for purposes of analysis, the development scenario for implementation of the proposed Specific Plan consists of 800 single family detached residential DU, 4.8 acres of parks, 106-room hotel, 15,000 sf of office use, 30,000 sf civic use, 16,660 sf of high turnover (sit-down) restaurant use, 3,500 sf of fast-food restaurant with drive-thru window, 60,890 sf of commercial retail use, and 45,000 sf of supermarket use. According to SCAQMD LST methodology, LSTs would apply to the operational phase of a proposed project, if the project includes stationary sources, or attracts mobile sources that may spend long periods queuing and idling at the site (e.g., transfer facilities and warehouse buildings). The proposed Project does not include such uses, and thus, due to the lack of significant stationary source emissions, no long-term localized significance threshold analysis is needed.

5.7 CO "HOT SPOT" ANALYSIS

As discussed below, the Project would not result in potentially adverse CO concentrations or "hot spots." Further, detailed modeling of Project-specific CO "hot spots" is not needed to reach this conclusion. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur.

It has long been recognized that CO hotspots are caused by vehicular emissions, primarily when idling at congested intersections. In response, vehicle emissions standards have become increasingly stringent in the last twenty years. Currently, the allowable CO emissions standard in California is a maximum of 3.4 grams/mile for passenger cars (there are requirements for certain vehicles that are more stringent). With the turnover of older vehicles, introduction of cleaner fuels, and implementation of increasingly sophisticated and efficient emissions control technologies, CO concentration in the SCAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the SCAB, a CO "hot spot" analysis was conducted in 2003 for four busy intersections in Los Angeles at the peak morning and afternoon time periods. This "hot spot" analysis did not predict any violation of CO standards, as shown on Table 5-9.

TABLE 5-9: CO MODEL RESULTS

Intersection Location	CO Concentrations (ppm)

	Morning 1-hour	Afternoon 1-hour	8-hour
Wilshire Boulevard/Veteran Avenue	4.6	3.5	3.7
Sunset Boulevard/Highland Avenue	4	4.5	3.5
La Cienega Boulevard/Century Boulevard	3.7	3.1	5.2
Long Beach Boulevard/Imperial Highway	3	3.1	8.4

Source: 2003 AQMP, Appendix V: Modeling and Attainment Demonstrations
Notes: Federal 1-hour standard is 35 ppm and the deferral 8-hour standard is 9.0 ppm.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (*1992 CO Plan*), peak carbon monoxide concentrations in the SCAB were a result of unusual meteorological and topographical conditions and not a result of traffic volumes and congestion at a particular intersection. As evidence of this, for example, 8.4 ppm 8-hr CO concentration measured at the Long Beach Blvd. and Imperial Hwy. intersection (highest CO generating intersection within the "hot spot" analysis), only 0.7 ppm was attributable to the traffic volumes and congestion at this intersection; the remaining 7.7 ppm were due to the ambient air measurements at the time the 2003 AQMP was prepared (33). In contrast, an adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 parts per million (ppm) or the eight-hour standard of 9 ppm were to occur.

The ambient 1-hr and 8-hr CO concentration within the Project study area is estimated to be 0.9 ppm and 0.6 ppm, respectively (data from Lake Elsinore monitoring station for 2022). Therefore, even if the traffic volumes for the proposed Project were double or even triple of the traffic volumes generated at the Long Beach Blvd. and Imperial Hwy. intersection, coupled with the on-going improvements in ambient air quality, the Project would not be capable of resulting in a CO "hot spot" at any study area intersections.

Similar considerations are also employed by other Air Districts when evaluating potential CO concentration impacts. More specifically, the Bay Area Air Quality Management District (BAAQMD) concludes that under existing and future vehicle emission rates, a given project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour (vph)—or 24,000 vph where vertical and/or horizontal air does not mix—in order to generate a significant CO impact (34). Traffic volumes generating the CO concentrations for the "hot spot" analysis is shown on Table 5-10. The busiest intersection evaluated was that at Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vph and AM/PM traffic volumes of 8,062 vph and 7,719 vph respectively (33).

TABLE 5-10: TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Eastbound (AM/PM)	Westbound (AM/PM)	Southbound (AM/PM)	Northbound (AM/PM)	Total (AM/PM)
Wilshire Boulevard/Veteran Avenue	4,954/2,069	1,830/3,317	721/1,400	560/933	8,062/7,719
Sunset Boulevard/Highland Avenue	1,417/1,764	1,342/1,540	2,304/1,832	1,551/2,238	6,614/5,374

La Cienega Boulevard/Century Boulevard	2,540/2,243	1,890/2,728	1,384/2,029	821/1,674	6,634/8,674
Long Beach Boulevard/Imperial Highway	1,217/2,020	1,760/1,400	479/944	756/1,150	4,212/5,514

When considering maximum traffic volumes in the Project study area, as summarized on Table 5-11 below, the total traffic volumes for the Opening Year Cumulative With Project scenario are less than the peak traffic totals at the busiest intersections considered in the 2003 AQMP analysis. As such, the Project considered herein along with background and cumulative development would not produce the volume of traffic required to generate a CO "hot spot" either in the context of the 2003 Los Angeles hot spot study or based on representative BAAQMD CO threshold considerations. Therefore, CO "hot spots" are not an environmental impact of concern for the Project. Localized air quality impacts related to mobile-source emissions would therefore be less than significant.

TABLE 5-11: OPENING YEAR CUMULATIVE (2025) WITH PROJECT TRAFFIC VOLUMES

Intersection Location	Peak Traffic Volumes (vph)				
	Northbound (AM/PM)	Southbound (AM/PM)	Eastbound (AM/PM)	Westbound (AM/PM)	Total (AM/PM)
Perris Boulevard/Alessandro Boulevard	952/1,191	758/1,024	675/1,558	1,278/1,233	3,663/5,005
Nason Street/SR-60 Eastbound Ramps	2,354/2,104	1,243/1,189	1,222/1,522	0/0	4,819/4,815
Nason Street/Fir Avenue	2,105/1,810	2,161/2,403	382/228	267/586	4,915/5,027
Nason Street/Eucalyptus Avenue	2,193/2,024	1,897/2,117	576/289	361/357	5,027/4,787

5.8 AIR QUALITY MANAGEMENT PLANNING

The Project site is located within the SCAB, which is characterized by relatively poor air quality. The SCAQMD has jurisdiction over an approximately 10,743 square-mile area consisting of the four-county Basin and the Los Angeles County and Riverside County portions of what used to be referred to as the Southeast Desert Air Basin. In these areas, the SCAQMD is principally responsible for air pollution control, and works directly with the SCAG, county transportation commissions, local governments, as well as state and federal agencies to reduce emissions from stationary, mobile, and indirect sources to meet state and federal ambient air quality standards.

Currently, these state and federal air quality standards are exceeded in most parts of the SCAB. In response, the SCAQMD has adopted a series of AQMPs to meet the state and federal ambient air quality standards. AQMPs are updated regularly in order to more effectively reduce emissions, accommodate growth, and to minimize any negative fiscal impacts of air pollution control on the economy.

In December 2022, the SCAQMD released the *Final 2022 AQMP* (*2022 AQMP*). The *2022 AQMP* continues to evaluate current integrated strategies and control measures to meet the CAAQS, as well as explore new and innovative methods to reach its goals. Some of these approaches include utilizing incentive programs, recognizing existing co-benefit programs from other sectors, and developing a strategy with fair-share reductions at the federal, state, and local levels (35). Similar to the 2016 AQMP, the *2022 AQMP* incorporates scientific and technological information and

planning assumptions, including the *2020-2045 RTP/SCS*, a planning document that supports the integration of land use and transportation to help the region meet the federal CAA requirements (36). The Project's consistency with the AQMP will be determined using the *2022 AQMP* as discussed below.

Criteria for determining consistency with the AQMP are defined in Chapter 12, Section 12.2 and Section 12.3 of the *1993 CEQA Handbook* (37). These indicators are discussed below:

5.8.1 CONSISTENCY CRITERION NO. 1

The proposed Project will not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

The violations that Consistency Criterion No. 1 refers to are the CAAQS and NAAQS. CAAQS and NAAQS violations would occur if regional or localized significance thresholds were exceeded.

Construction Impacts – Consistency Criterion 1

As evaluated, the Project's regional and localized construction-source emissions would not exceed applicable regional significance threshold and LST thresholds after implementation of MM 1. As such, a less than significant impact is expected.

Operational Impacts – Consistency Criterion 1

The Project would not exceed the applicable LSTs for operational activity. However, the Project's operational-source emissions are anticipated to exceed the regional thresholds of significance for VOC, NO_X, and CO emissions. VOC and NO_X are precursors for ozone; thus, Project operational activities could contribute a substantial volume of pollutants to the SCAB that could delay the attainment of federal and State ozone standards. Although the Project would implement Project specific MMs 2 through MM 6, which are designed to reduce Project operational-source VOCs, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions, there is no way to meaningfully quantify these reductions in CalEEMod. Therefore, no numeric emissions credit has been taken in the analysis. As such, even with application of MM 2 through MM 6, Project operational-source emissions impacts would be significant and unavoidable.

As such, the Project has the potential to result in a significant impact with respect to this criterion and it is conservatively concluded that the Project would have the potential to conflict with the AQMP according to this criterion.

On the basis of the preceding discussion, the Project is determined to be inconsistent with the first criterion.

5.8.2 CONSISTENCY CRITERION NO. 2

The Project will not exceed the assumptions in the AQMP based on the years of Project build-out phase.

The 2022 AQMP demonstrates that the applicable ambient air quality standards can be achieved within the timeframes required under federal law. Growth projections from local general plans adopted by cities in the district are provided to the SCAG, which develops regional growth forecasts, which are then used to develop future air quality forecasts for the AQMP. Development consistent with the growth projections in the City of Moreno Valley's General Plan are considered to be consistent with the AQMP.

Construction Impacts – Consistency Criterion 2

Peak day emissions generated by construction activities are largely independent of land use assignments, but rather are a function of development scope and maximum area of disturbance. Irrespective of the site's land use designation, development of the site to its maximum potential would likely occur, with disturbance of the entire site occurring during construction activities.

Operational Impacts – Consistency Criterion 2

For purposes of analysis, the proposed Project includes the development of 800 residential DU, 4.8 acres of parks, 106-room hotel, 15,000 sf of office use, 30,000 sf civic use, 16,660 sf of high turnover (sit-down) restaurant use, 3,500 sf of fast-food restaurant with drive-thru window, 60,890 sf of commercial retail use, and 45,000 sf of supermarket use. The Project includes a proposed Specific Plan, and a proposed TTM to allow for the development of residential, commercial, and park uses.

As mentioned previously, this report evaluates the impacts resulting from implementation of the proposed Project under the existing General Plan land use and zoning designations, which would require a General Plan Amendment and zone change, and the City's proposed 2040 General Plan land use and zoning designation, if applicable to the analysis.

2006 General Plan Land Use Consistency

The City of Moreno Valley 2006 General Plan designates the Project Site for Public Facilities uses. The Public Facilities designation allows for a mix of uses of public improvements and amenities, including, but not limited to, roads, bridges, traffic signals, street lights, drainage facilities, trails, parks, recreation buildings, administrative buildings, city yards, libraries, cultural facilities, fire stations and police stations. (38).

As mentioned previously, the proposed Project also involves a General Plan amendment and zone change. The proposed General Plan land use designation is Residential (30 du/acre maximum), Open Space, and Commercial. The proposed change of zone would amend the Public Facilities zoning to the TCMV Specific Plan (SP 222) zoning classification for the subject property.

While the 2006 General Plan designates the Project site for Public Facilities land uses, the 2022 AQMP was adopted subsequent to the City's prior adoption of the 2040 General Plan and is therefore assumed to include the City's growth projections associated with the 2040 General Plan, as discussed below.

2040 General Plan Land Use Consistency

The City of Moreno Valley 2040 General Plan, which was previously adopted by the City in 2021 and is proposed for re-adoption, designates the Project site for DC District uses. The DC District designation allows for a vibrant mix of business, entertainment, residential, cultural, and civic uses to activate the DC District throughout the day and into the evening. It integrates existing uses and layers compatible new land uses and public amenities together at various scales and intensities to foster a mix of uses that encourages people to live, work, play, and shop within the DC District (39).

The proposed Town Center at Moreno Valley Specific Plan is consistent with the City's proposed Downtown Center (DC) District land use and zoning designations and is consistent with the City's growth assumptions in the 2040 General Plan.

The City of Moreno Valley 2040 General Plan was originally adopted in 2021, before adoption of the 2022 AQMP; therefore, the City's growth projections are presumed to be included in the 2022 AQMP. As such, the Project is consistent with the 2022 AQMP and reflects the proposed land uses for the Project site as anticipated in the 2040 General Plan. As such, the Project would not result in the exceedance of assumptions within the AQMD and would not result a conflict with Consistency Criterion No. 2.

5.8.3 AQMP CONSISTENCY CONCLUSION

The Project has the potential to result in or cause NAAQS or CAAQS violations. Operational-source emissions would exceed the applicable SCAQMD regional thresholds for VOC, CO, and NO_X. As such, the Project is conservatively considered to have the potential to conflict with the AQMP and a potential significant impact would occur with respect to this threshold.

5.9 RTP/SCS CONSISTENCY

The proposed Project would increase regional employment by approximately 432 jobs (40). According to SCAG's *2020-2045 RTP/SCS*, employment within Riverside County in 2019 is approximately 812,800 jobs with an anticipated increase to approximately 1,102,700 jobs by 2045, a growth of approximately 289,900 jobs (41). The proposed Project represents 0.15% of the anticipated increase in jobs, and therefore, would not result in long-term operational employment growth that exceeds planned growth projections in the RTP/SCS or the AQMP, or result in employment growth that would substantially add to traffic congestion.

Additionally, the proposed Project would increase regional households by approximately 800 households (40). According to SCAG's *2020-2045 RTP/SCS*, housing within Riverside County in 2019 is approximately 758,300 households with an anticipated increase to approximately 1,086,100 households by 2045, a growth of approximately 327,800 households (41). The proposed Project represents 0.24% of the anticipated increase in homes, and therefore, would not result in long-term operational household growth that exceeds planned growth projections in the RTP/SCS or the AQMP, or result in household growth that would substantially add to traffic congestion.

5.10 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions on sensitive receptors has also been considered. Sensitive receptors can include uses such as long-term health care facilities, rehabilitation centers, and retirement homes. Residences, schools, playgrounds, childcare centers, and athletic facilities can also be considered as sensitive receptors.

Results of the LST analysis indicate that the Project would not exceed the SCAQMD localized significance thresholds during construction. Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations during Project construction.

Results of the LST analysis indicate that the Project would not exceed the SCAQMD localized significance thresholds during operational activity. Further Project traffic would not create or result in a CO "hotspot." Therefore, sensitive receptors would not be exposed to substantial pollutant concentrations as the result of Project operations.

5.10.1 FRIANT RANCH CASE

In December 2018, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, the California Supreme Court held that an Environmental Impact Report's (EIR) air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided.

Most local agencies, including the City of Moreno Valley, lack the data to do their own assessment of potential health impacts from criteria air pollutant emissions, as would be required to establish customized, locally-specific thresholds of significance based on potential health impacts from an individual development project. The use of national or "generic" data to fill the gap of missing local data would not yield accurate results because such data does not capture local air patterns, local background conditions, or local population characteristics, all of which play a role in how a population experiences air pollution. Because it is impracticable to accurately isolate the exact cause of a human disease (for example, the role a particular air pollutant plays compared to the role of other allergens and genetics in causing asthma), existing scientific tools cannot accurately estimate health impacts of the Project's air emissions without undue speculation. Instead, readers are directed to the Project's air quality impact analysis above, which provides extensive information concerning the quantifiable and non-quantifiable health risks related to the Project's construction and long-term operation.

Notwithstanding, this AQIA does evaluate the proposed Project's localized impact to air quality for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$ by comparing the proposed Project's on-site emissions to the SCAQMD's applicable LST thresholds. The LST analysis above determined that the Project would not result in emissions exceeding SCAQMD's LSTs. Therefore, the proposed Project would not be expected to exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$.

As the Project's emissions would comply with federal, state, and local air quality standards, the proposed Project's emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a basin-wide level and would not provide a reliable indicator of health effects if modeled.

5.11 ODORS

The potential for the Project to generate objectionable odors has also been considered. Potential odor sources associated with the proposed Project may result from construction equipment exhaust and the application of asphalt and architectural coatings during construction activities. Standard construction requirements would minimize odor impacts from construction. The construction odor emissions would be temporary, short-term, and intermittent in nature and would cease upon completion of the respective phase of construction and is thus considered less than significant. It is expected that Project-generated refuse would be stored in covered containers and removed at regular intervals. The proposed Project would also be required to comply with SCAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors associated with the proposed Project construction would be less than significant and no mitigation is required (42).

According to the SCAQMD, land uses generally associated with odor complaints include:

- Agricultural uses (livestock and farming)
- Wastewater treatment plants
- Food processing plants
- Chemical plants
- Composting operations
- Refineries
- Landfills
- Dairies
- Fiberglass molding facilities

The proposed Project does not include any uses identified by the SCAQMD as being associated with emitting objectionable odors. As the proposed Project operational activities do not include these sources of odors, potential odor impacts would be less than significant.

5.12 CUMULATIVE IMPACTS

As previously shown in Table 2-3, the CAAQS designate the SCAB as nonattainment for O_3, PM_{10}, and $PM_{2.5}$ while the NAAQS designates the SCAB as nonattainment for O_3 and $PM_{2.5}$.

The SCAQMD has published a report on how to address cumulative impacts from air pollution: *White Paper on Potential Control Strategies to Address Cumulative Impacts from Air Pollution* (43). In this report the SCAQMD clearly states (Page D-3):

> *…the AQMD uses the same significance thresholds for project specific and cumulative impacts for all environmental topics analyzed in an Environmental Assessment or EIR. The only case where the significance thresholds for project specific and cumulative impacts differ is the Hazard Index (HI) significance threshold for TAC emissions. The project specific (project increment) significance threshold is HI > 1.0 while the cumulative (facility-wide) is HI > 3.0. It should be*

noted that the HI is only one of three TAC emission significance thresholds considered (when applicable) in a CEQA analysis. The other two are the maximum individual cancer risk (MICR) and the cancer burden, both of which use the same significance thresholds (MICR of 10 in 1 million and cancer burden of 0.5) for project specific and cumulative impacts.

Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. This is the reason project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are generally not considered to be cumulatively significant.

Therefore, this analysis assumes that individual projects that do not generate operational or construction emissions that exceed the SCAQMD's recommended daily thresholds for project-specific impacts would also not cause a cumulatively considerable increase in emissions for those pollutants for which the Basin is in nonattainment, and, therefore, would not be considered to have a significant, adverse air quality impact. Alternatively, individual project-related construction and operational emissions that exceed SCAQMD thresholds for project-specific impacts would be considered cumulatively considerable.

CONSTRUCTION IMPACTS

As discussed herein, all construction-source criteria pollutant emissions impacts would be less-than-significant at the Project level, and would therefore per SCAQMD criteria, not be cumulatively significant.

OPERATIONAL-SOURCE EMISSIONS

The proposed Project has the potential to result in cumulative impacts associated with on-going operations for emissions of VOC, NO_X, and CO. Therefore, the proposed Project would have the potential to result in a cumulatively considerable significant impact with respect to operational activity.

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7 CERTIFICATIONS

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Town Center at Moreno Valley Specific Plan. The information contained in this air quality impact assessment report is based on the best available data at the time of preparation. If you have any questions, please contact me directly at hqureshi@urbanxroads.com.

Haseeb Qureshi
Principal
Urban Crossroads, Inc.
hqureshi@urbanxroads.com

EDUCATION

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

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

PROFESSIONAL AFFILIATIONS

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

PROFESSIONAL CERTIFICATIONS

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

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APPENDIX 2.1:

STATE/FEDERAL ATTAINMENT STATUS OF CRITERIA POLLUTANTS

Appendix C
Maps and Tables of Area Designations for State and National Ambient Air Quality Standards

Appendix C
Maps and Tables of Area Designations for State and National Ambient Air Quality Standards

This attachment fulfills the requirement of Health and Safety Code section 40718 for CARB to publish maps that identify areas where one or more violations of any State ambient air quality standard (State standard) or national ambient air quality standard (national standard) have been measured. The national standards are those promulgated under section 109 of the federal Clean Air Act (42 U.S.C. 7409).

This attachment is divided into three parts. The first part comprises a table showing the levels, averaging times, and measurement methods for each of the State and national standards. This is followed by a section containing maps and tables showing the area designations for each pollutant for which there is a State standard in the California Code of Regulations, title 17, section 70200. The last section contains maps and tables showing the most current area designations for the national standards.

(Updated 5/4/16)

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 (O_3)[8]	1 Hour	0.09 ppm (180 µg/m³)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m³)		0.070 ppm (137 µg/m³)		
Respirable Particulate Matter (PM10)[9]	24 Hour	50 µg/m³	Gravimetric or Beta Attenuation	150 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m³		—		
Fine Particulate Matter (PM2.5)[9]	24 Hour	—	—	35 µg/m³	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m³	Gravimetric or Beta Attenuation	12.0 µg/m³	15 µg/m³	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m³)	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m³)	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m³)		9 ppm (10 mg/m³)	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m³)		—	—	
Nitrogen Dioxide (NO_2)[10]	1 Hour	0.18 ppm (339 µg/m³)	Gas Phase Chemiluminescence	100 ppb (188 µg/m³)	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	Same as Primary Standard	
Sulfur Dioxide (SO_2)[11]	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Flourescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m³)	
	24 Hour	0.04 ppm (105 µg/m³)		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/m³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas)[12]	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility Reducing Particles[14]	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	**No National Standards**		
Sulfates	24 Hour	25 µg/m³	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	Ultraviolet Fluorescence			
Vinyl Chloride[12]	24 Hour	0.01 ppm (26 µg/m³)	Gas Chromatography			

See footnotes on next page …

1. California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM10, PM2.5, 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 PM10, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For PM2.5, 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 CARB 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 December 14, 2012, the national annual PM2.5 primary standard was lowered from 15 $\mu g/m^3$ to 12.0 $\mu g/m^3$. The existing national 24-hour PM2.5 standards (primary and secondary) were retained at 35 $\mu g/m^3$, as was the annual secondary standard of 15 $\mu g/m^3$. The existing 24-hour PM10 standards (primary and secondary) of 150 $\mu g/m^3$ 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 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard 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 nonattainment 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 parts per billion (ppb). California standards are in units of parts per million (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 CARB has identified lead and vinyl chloride as 'toxic air contaminants' with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

13. The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$)as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment 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 CARB 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.

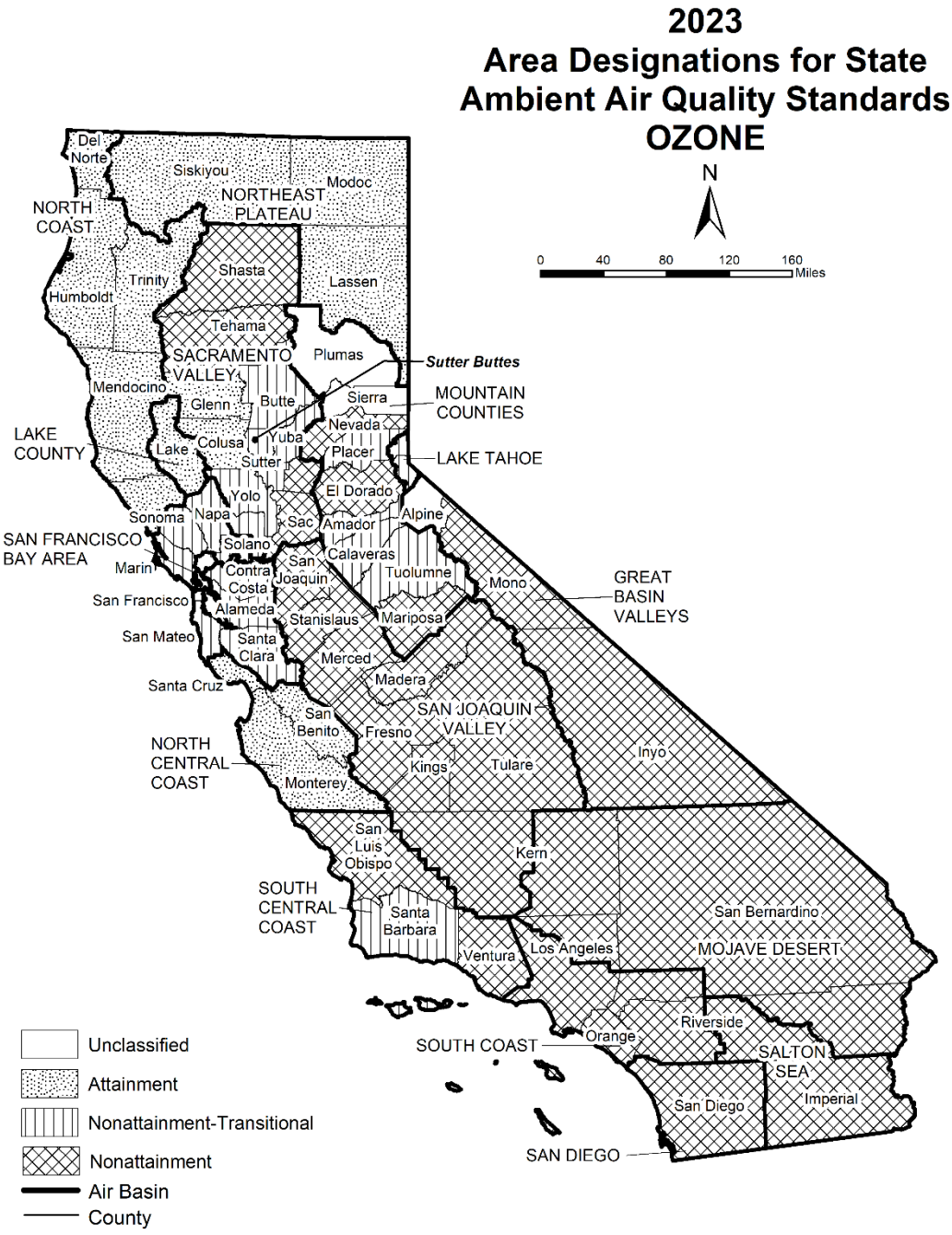
Area Designations for the State Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a State standard set forth in the California Code of Regulations, title 17, section 60200. Each area is identified as attainment, nonattainment, nonattainment-transitional, or unclassified for each pollutant, as shown below:

Designation	Abbreviation
Attainment	A
Nonattainment	N
Nonattainment-Transitional	NA-T
Unclassified	U

In general, CARB designates areas by air basin for pollutants with a regional impact and by county for pollutants with a more local impact. However, when there are areas within an air basin or county with distinctly different air quality deriving from sources and conditions not affecting the entire air basin or county, CARB may designate a smaller area. Generally, when boundaries of the designated area differ from the air basin or county boundaries, the description of the specific area is referenced at the bottom of the summary table.

Figure 1



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

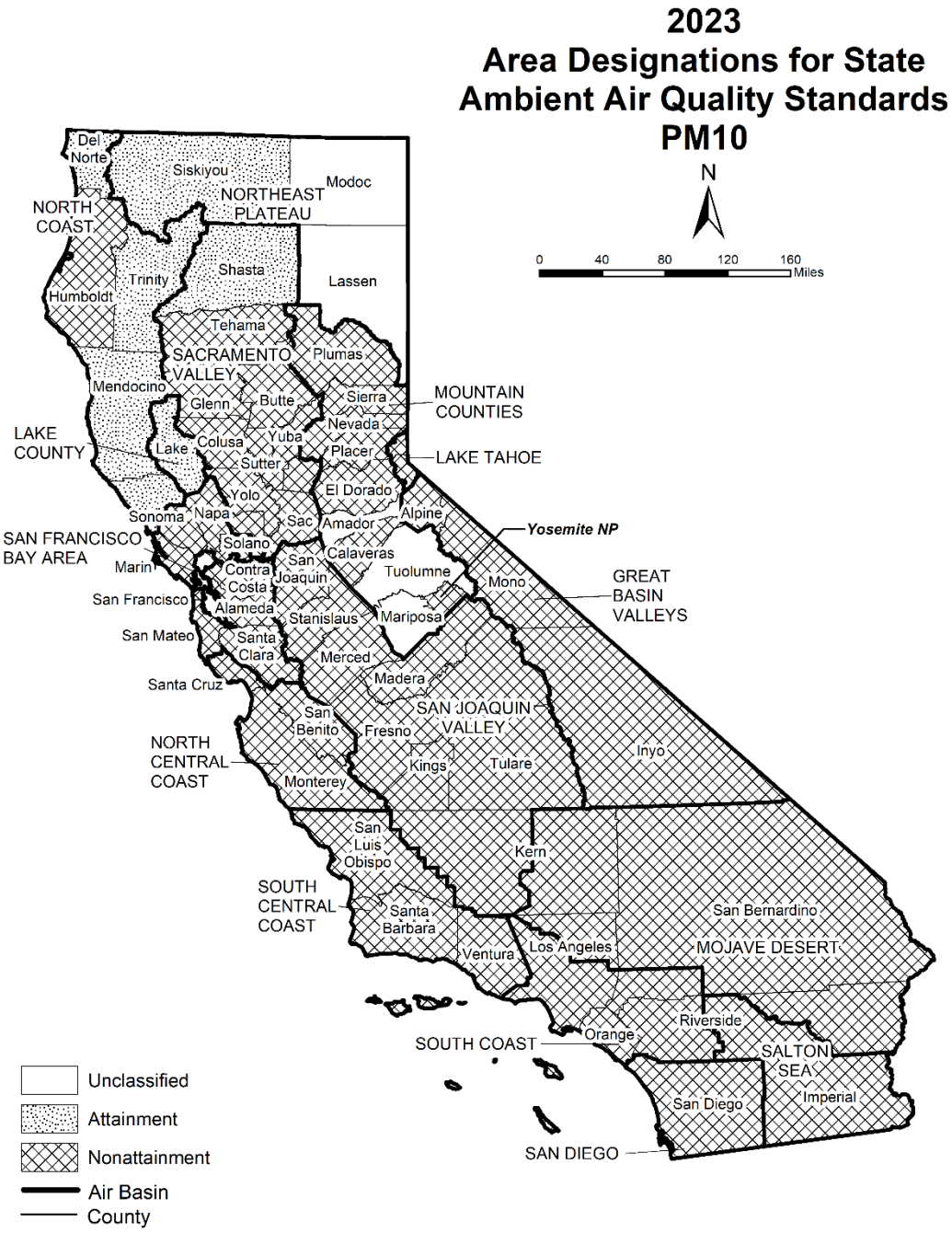
Table 1
California Ambient Air Quality Standards Area Designations for Ozone[1]

Area	N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN				
Alpine County			U	
Inyo County	N			
Mono County	N			
LAKE COUNTY AIR BASIN				A
LAKE TAHOE AIR BASIN		NA-T		
MOJAVE DESERT AIR BASIN	N			
MOUNTAIN COUNTIES AIR BASIN				
Amador County		NA-T		
Calaveras County		NA-T		
El Dorado County (portion)	N			
Mariposa County	N			
Nevada County	N			
Placer County (portion)		NA-T		
Plumas County			U	
Sierra County			U	
Tuolumne County		NA-T		
NORTH CENTRAL COAST AIR BASIN				A
NORTH COAST AIR BASIN				A
NORTHEAST PLATEAU AIR BASIN				A

Area	N	NA-T	U	A
SACRAMENTO VALLEY AIR BASIN				
Butte County		NA-T		
Colusa and Glenn Counties				A
Shasta County	N			
Sutter/Yuba Counties				
Sutter Buttes		NA-T		
Remainder of Sutter County		NA-T		
Yuba County		NA-T		
Yolo/Solano Counties		NA-T		
Remainder of Air Basin	N			
SALTON SEA AIR BASIN	N			
SAN DIEGO AIR BASIN	N			
SAN FRANCISCO BAY AREA AIR BASIN		NA-T		
SAN JOAQUIN VALLEY AIR BASIN	N			
SOUTH CENTRAL COAST AIR BASIN				
San Luis Obispo County	N			
Santa Barbara County		NA-T		
Ventura County	N			
SOUTH COAST AIR BASIN	N			

[1] AB 3048 (Olberg) and AB 2525 (Miller) signed into law in 1996, made changes to Health and Safety Code, section 40925.5. One of the changes allows nonattainment districts to become nonattainment-transitional for ozone by operation of law.

Figure 2



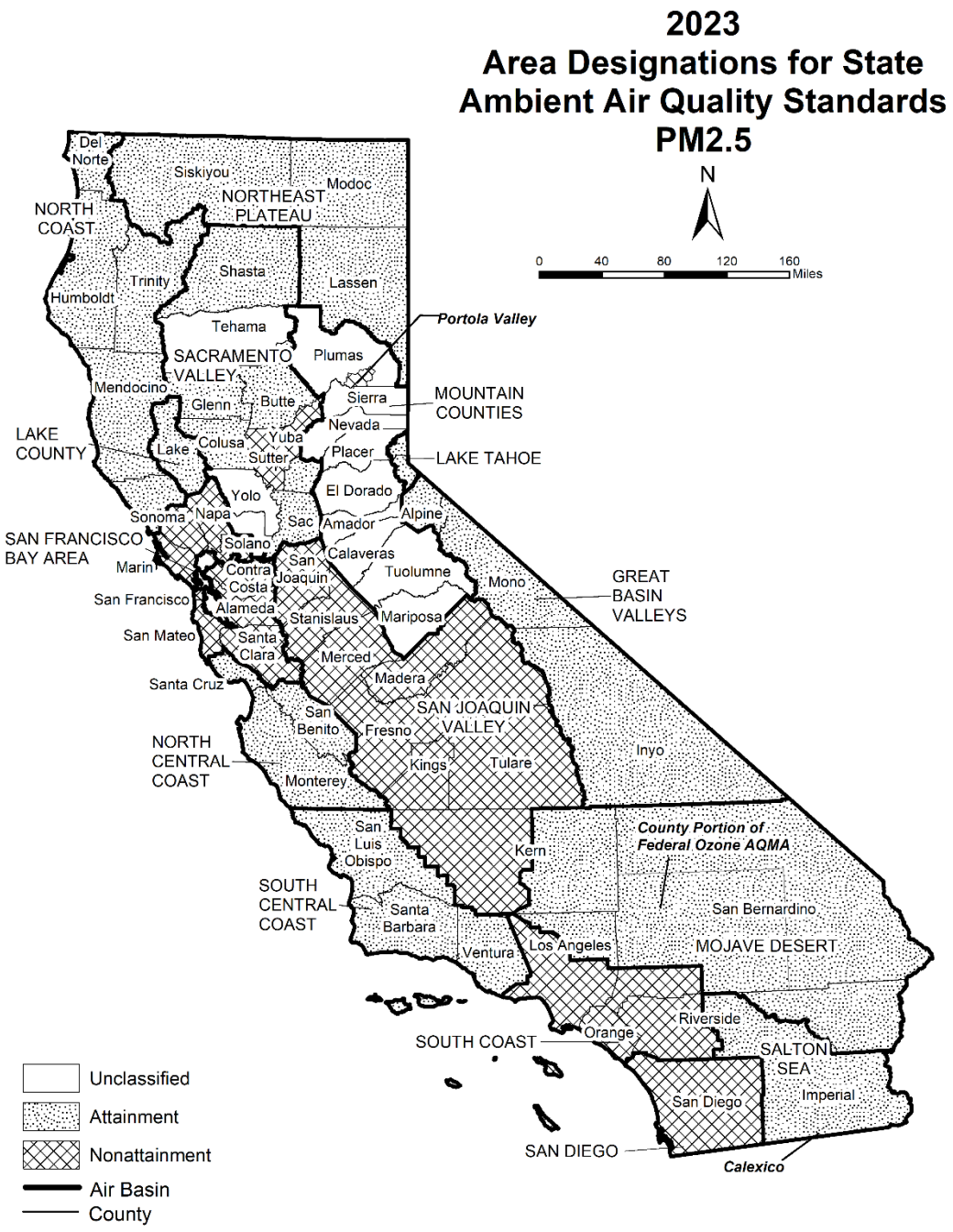
Last Updated: November 2023
Air Quality Planning and Science Division, CARB

Table 2
California Ambient Air Quality Standards Area Designations for Suspended Particulate Matter (PM_{10})

Area	N	U	A
GREAT BASIN VALLEYS AIR BASIN	N		
LAKE COUNTY AIR BASIN			A
LAKE TAHOE AIR BASIN	N		
MOJAVE DESERT AIR BASIN	N		
MOUNTAIN COUNTIES AIR BASIN			
Amador County		U	
Calaveras County	N		
El Dorado County (portion)	N		
Mariposa County			
- Yosemite National Park	N		
- Remainder of County		U	
Nevada County	N		
Placer County (portion)	N		
Plumas County	N		
Sierra County	N		
Tuolumne County		U	

Area	N	U	A
NORTH CENTRAL COAST AIR BASIN	N		
NORTH COAST AIR BASIN			
Del Norte, Mendocino, Sonoma (portion) and Trinity Counties			A
Remainder of Air Basin	N		
NORTHEAST PLATEAU AIR BASIN			
Siskiyou County			A
Remainder of Air Basin		U	
SACRAMENTO VALLEY AIR BASIN			
Shasta County			A
Remainder of Air Basin	N		
SALTON SEA AIR BASIN	N		
SAN DIEGO AIR BASIN	N		
SAN FRANCISCO BAY AREA AIR BASIN	N		
SAN JOAQUIN VALLEY AIR BASIN	N		
SOUTH CENTRAL COAST AIR BASIN	N		
SOUTH COAST AIR BASIN	N		

Figure 3



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Air Quality Planning and Science Division, CARB

Table 3
California Ambient Air Quality Standards Area Designations for Fine Particulate Matter ($PM_{2.5}$)

Area	N	U	A
GREAT BASIN VALLEYS AIR BASIN			A
LAKE COUNTY AIR BASIN			A
LAKE TAHOE AIR BASIN			A
MOJAVE DESERT AIR BASIN			A
MOUNTAIN COUNTIES AIR BASIN			
Plumas County			
- Portola Valley[1]	N		
- Remainder Plumas County		U	
Remainder of Air Basin		U	
NORTH CENTRAL COAST AIR BASIN			A
NORTH COAST AIR BASIN			A
NORTHEAST PLATEAU AIR BASIN			A
SACRAMENTO VALLEY AIR BASIN			
Butte County			A
Colusa County			A
Glenn County			A
Placer County (portion)			A
Sacramento County			A
Shasta County			A
Sutter and Yuba Counties	N		
Remainder of Air Basin		U	

Area	N	U	A
SALTON SEA AIR BASIN			
Imperial County			
- City of Calexico[2]	N		
Remainder of Air Basin			A
SAN DIEGO AIR BASIN	N		
SAN FRANCISCO BAY AREA AIR BASIN	N		
SAN JOAQUIN VALLEY AIR BASIN	N		
SOUTH CENTRAL COAST AIR BASIN			A
SOUTH COAST AIR BASIN	N		

[1] California Code of Regulations, title 17, section 60200(c)

[2] California Code of Regulations, title 17, section 60200(a)

Figure 4

Last Updated: November 2023
Air Quality Planning and Science Division, CARB

Table 4
California Ambient Air Quality Standards Area Designations for Carbon Monoxide*

Area	N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN				
Alpine County			U	
Inyo County				A
Mono County				A
LAKE COUNTY AIR BASIN				A
LAKE TAHOE AIR BASIN				A
MOJAVE DESERT AIR BASIN				
Kern County (portion)			U	
Los Angeles County (portion)				A
Riverside County (portion)			U	
San Bernardino County (portion)				A
MOUNTAIN COUNTIES AIR BASIN				
Amador County			U	
Calaveras County			U	
El Dorado County (portion)			U	
Mariposa County			U	
Nevada County			U	
Placer County (portion)			U	
Plumas County				A
Sierra County			U	
Tuolumne County				A
NORTH CENTRAL COAST AIR BASIN				
Monterey County				A
San Benito County			U	
Santa Cruz County			U	
NORTH COAST AIR BASIN				
Del Norte County			U	
Humboldt County				A
Mendocino County				A
Sonoma County (portion)			U	
Trinity County			U	
NORTHEAST PLATEAU AIR BASIN			U	

Area	N	NA-T	U	A
SACRAMENTO VALLEY AIR BASIN				
Butte County				A
Colusa County			U	
Glenn County			U	
Placer County (portion)				A
Sacramento County				A
Shasta County			U	
Solano County (portion)				A
Sutter County				A
Tehama County			U	
Yolo County				A
Yuba County			U	
SALTON SEA AIR BASIN				A
SAN DIEGO AIR BASIN				A
SAN FRANCISCO BAY AREA AIR BASIN				A
SAN JOAQUIN VALLEY AIR BASIN				
Fresno County				A
Kern County (portion)				A
Kings County			U	
Madera County			U	
Merced County			U	
San Joaquin County				A
Stanislaus County				A
Tulare County				A
SOUTH CENTRAL COAST AIR BASIN				A
SOUTH COAST AIR BASIN				A

* The area designated for carbon monoxide is a county or portion of a county

Figure 5

Last Updated: November 2023
Air Quality Planning and Science Division, CARB

Table 5
California Ambient Air Quality Standards Area Designations for Nitrogen Dioxide

Area	N	U	A
GREAT BASIN VALLEYS AIR BASIN			A
LAKE COUNTY AIR BASIN			A
LAKE TAHOE AIR BASIN			A
MOJAVE DESERT AIR BASIN			A
MOUNTAIN COUNTIES AIR BASIN			A
NORTH CENTRAL COAST AIR BASIN			A
NORTH COAST AIR BASIN			A
NORTHEAST PLATEAU AIR BASIN			A
SACRAMENTO VALLEY AIR BASIN			A
SALTON SEA AIR BASIN			A
SAN DIEGO AIR BASIN			A
SAN FRANCISCO BAY AREA AIR BASIN			A
SAN JOAQUIN VALLEY AIR BASIN			A
SOUTH CENTRAL COAST AIR BASIN			A
SOUTH COAST AIR BASIN			
CA 60 Near-road Portion of San Bernardino, Riverside, and Los Angeles Counties			A
Remainder of Air Basin			A

Figure 6

Last Updated: November 2023
Air Quality Planning and Science Division, CARB

Table 6
California Ambient Air Quality Standards Area Designations for Sulfur Dioxide*

Area	N	A
GREAT BASIN VALLEYS AIR BASIN		A
LAKE COUNTY AIR BASIN		A
LAKE TAHOE AIR BASIN		A
MOJAVE DESERT AIR BASIN		A
MOUNTAIN COUNTIES AIR BASIN		A
NORTH CENTRAL COAST AIR BASIN		A
NORTH COAST AIR BASIN		A
NORTHEAST PLATEAU AIR BASIN		A

Area	N	A
SACRAMENTO VALLEY AIR BASIN		A
SALTON SEA AIR BASIN		A
SAN DIEGO AIR BASIN		A
SAN FRANCISCO BAY AREA AIR BASIN		A
SAN JOAQUIN VALLEY AIR BASIN		A
SOUTH CENTRAL COAST AIR BASIN		A
SOUTH COAST AIR BASIN		A

* The area designated for sulfur dioxide is a county or portion of a county. Since all areas in the State are in attainment for this standard, air basins are indicated here for simplicity.

Figure 7


2023
Area Designations for State
Ambient Air Quality Standards
SULFATES
N
0 40 80 120 160
Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Colusa
Yuba
Lake
Placer
LAKE TAHOE
Sutter
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
Inyo
NORTH CENTRAL COAST
Kings
Tulare
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
MOJAVE DESERT
Riverside
Orange
SOUTH COAST
SALTON SEA
San Diego
Imperial
SAN DIEGO
Attainment
Air Basin
County
Last Updated: November 2023
Air Quality Planning and Science Division, CARB

Table 7
California Ambient Air Quality Standards Area Designations for Sulfates

Area	N	U	A
GREAT BASIN VALLEYS AIR BASIN			A
LAKE COUNTY AIR BASIN			A
LAKE TAHOE AIR BASIN			A
MOJAVE DESERT AIR BASIN			A
MOUNTAIN COUNTIES AIR BASIN			A
NORTH CENTRAL COAST AIR BASIN			A
NORTH COAST AIR BASIN			A
NORTHEAST PLATEAU AIR BASIN			A

Area	N	U	A
SACRAMENTO VALLEY AIR BASIN			A
SALTON SEA AIR BASIN			A
SAN DIEGO AIR BASIN			A
SAN FRANCISCO BAY AREA AIR BASIN			A
SAN JOAQUIN VALLEY AIR BASIN			A
SOUTH CENTRAL COAST AIR BASIN			A
SOUTH COAST AIR BASIN			A

Figure 8

Last Updated: November 2023
Air Quality Planning and Science Division, CARB

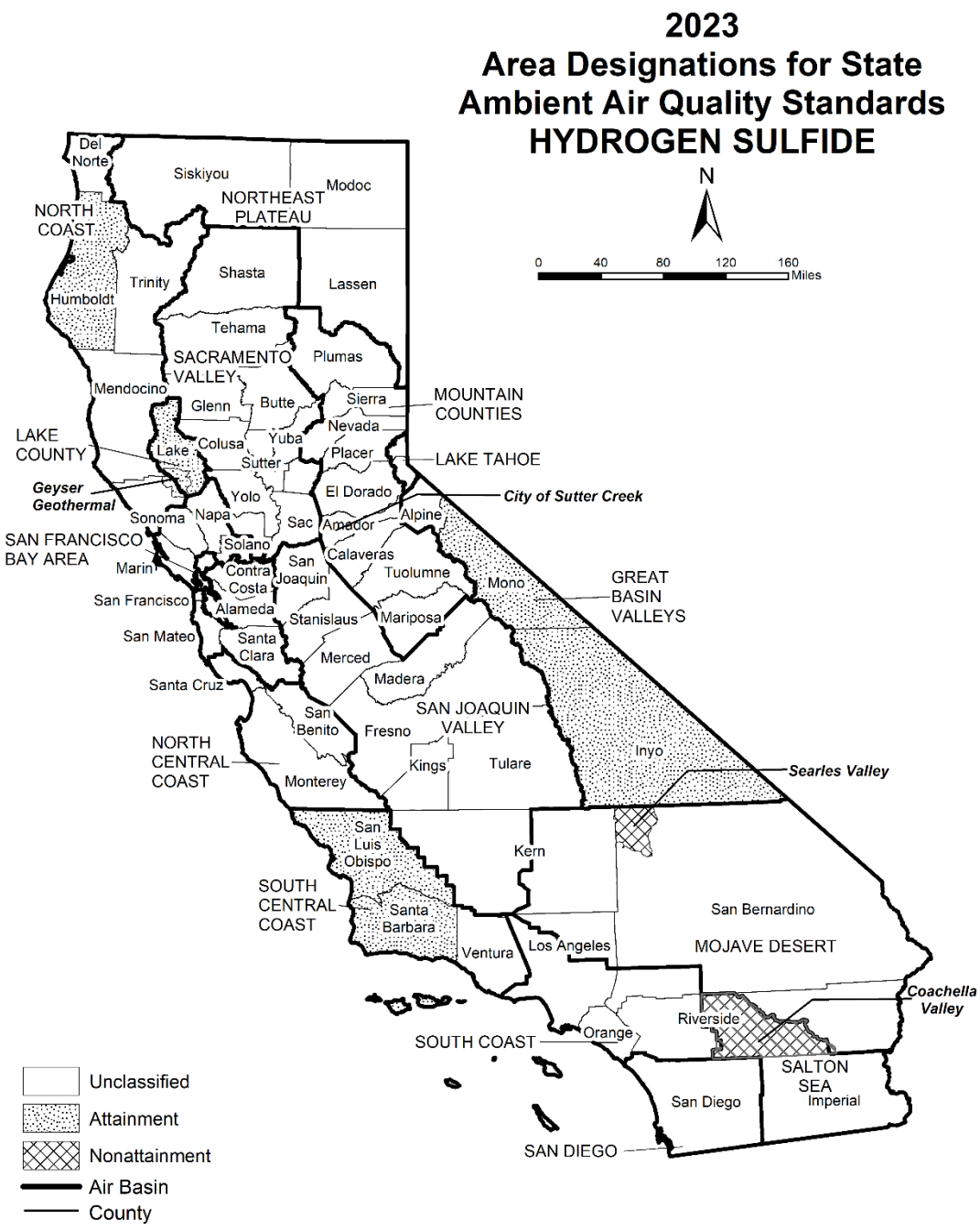
Table 8
California Ambient Air Quality Standards Area Designations for Lead (particulate)*

Area	N	U	A
GREAT BASIN VALLEYS AIR BASIN			A
LAKE COUNTY AIR BASIN			A
LAKE TAHOE AIR BASIN			A
MOJAVE DESERT AIR BASIN			A
MOUNTAIN COUNTIES AIR BASIN			A
NORTH CENTRAL COAST AIR BASIN			A
NORTH COAST AIR BASIN			A
NORTHEAST PLATEAU AIR BASIN			A
SACRAMENTO VALLEY AIR BASIN			A

Area	N	U	A
SALTON SEA AIR BASIN			A
SAN DIEGO AIR BASIN			A
SAN FRANCISCO BAY AREA AIR BASIN			A
SAN JOAQUIN VALLEY AIR BASIN			A
SOUTH CENTRAL COAST AIR BASIN			A
SOUTH COAST AIR BASIN			A

* The area designated for lead is a county or portion of a county. Since all areas in the State are in attainment for this standard, air basins are indicated here for simplicity.

Figure 9



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

Table 9
California Ambient Air Quality Standards Area Designations for Hydrogen Sulfide*

Area	N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN				
Alpine County			U	
Inyo County				A
Mono County				A
LAKE COUNTY AIR BASIN				A
LAKE TAHOE AIR BASIN			U	
MOJAVE DESERT AIR BASIN				
Kern County (portion)			U	
Los Angeles County (portion)			U	
Riverside County (portion)			U	
San Bernardino County (portion)				
- Searles Valley Planning Area[1]	N			
- Remainder of County			U	
MOUNTAIN COUNTIES AIR BASIN				
Amador County				
- City of Sutter Creek	N			
- Remainder of County			U	
Calaveras County			U	
El Dorado County (portion)			U	
Mariposa County			U	
Nevada County			U	
Placer County (portion)			U	
Plumas County			U	
Sierra County			U	
Tuolumne County			U	

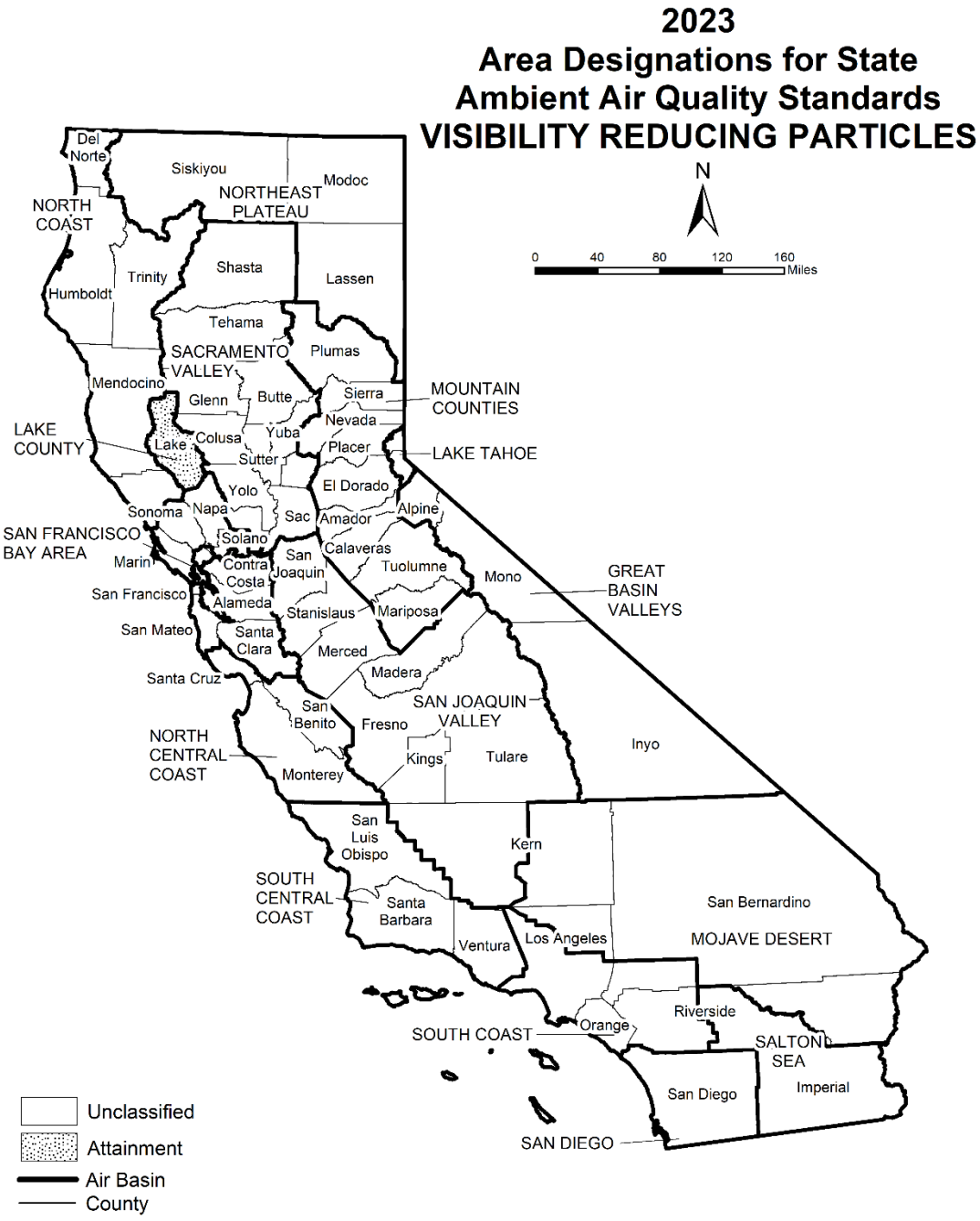
Area	N	NA-T	U	A
NORTH CENTRAL COAST AIR BASIN			U	
NORTH COAST AIR BASIN				
Del Norte County			U	
Humboldt County				A
Mendocino County			U	
Sonoma County (portion)				
- Geyser Geothermal Area[2]				A
- Remainder of County			U	
Trinity County			U	
NORTHEAST PLATEAU AIR BASIN			U	
SACRAMENTO VALLEY AIR BASIN			U	
SALTON SEA AIR BASIN				
Riverside County (portion)	N			
Imperial County			U	
SAN DIEGO AIR BASIN			U	
SAN FRANCISCO BAY AREA AIR BASIN			U	
SAN JOAQUIN VALLEY AIR BASIN			U	
SOUTH CENTRAL COAST AIR BASIN				
San Luis Obispo County				A
Santa Barbara County				A
Ventura County			U	
SOUTH COAST AIR BASIN			U	

* The area designated for hydrogen sulfide is a county or portion of a county

[1] 52 Federal Register 29384 (August 7, 1987)

[2] California Code of Regulations, title 17, section 60200(d)

Figure 10



Last Updated: November 2023
Air Quality Planning and Science Division, CARB

Table 10
California Ambient Air Quality Standards Area Designations for Visibility Reducing Particles

Area	N	NA-T	U	A
GREAT BASIN VALLEYS AIR BASIN			U	
LAKE COUNTY AIR BASIN				A
LAKE TAHOE AIR BASIN			U	
MOJAVE DESERT AIR BASIN			U	
MOUNTAIN COUNTIES AIR BASIN			U	
NORTH CENTRAL COAST AIR BASIN			U	
NORTH COAST AIR BASIN			U	
NORTHEAST PLATEAU AIR BASIN			U	

Area	N	NA-T	U	A
SACRAMENTO VALLEY AIR BASIN			U	
SALTON SEA AIR BASIN			U	
SAN DIEGO AIR BASIN			U	
SAN FRANCISCO BAY AREA AIR BASIN			U	
SAN JOAQUIN VALLEY AIR BASIN			U	
SOUTH CENTRAL COAST AIR BASIN			U	
SOUTH COAST AIR BASIN			U	

Area Designations for the National Ambient Air Quality Standards

The following maps and tables show the area designations for each pollutant with a national ambient air quality standard. Additional information about the federal area designations is available on the U.S. EPA website:

https://www.epa.gov/green-book

Over the last several years, U.S. EPA has been reviewing the levels of the various national standards. The agency has already promulgated new standard levels for some pollutants and is considering revising the levels for others. Information about the status of these reviews is available on the U.S. EPA website:

https://www.epa.gov/criteria-air-pollutants

Designation Categories

Suspended Particulate Matter (PM_{10}). The U.S. EPA uses three categories to designate areas with respect to PM_{10}:

- Attainment (A)
- Nonattainment (N)
- Unclassifiable (U)

Ozone, Fine Suspended Particulate Matter ($PM_{2.5}$), Carbon Monoxide (CO), and Nitrogen Dioxide (NO_2). The U.S. EPA uses two categories to designate areas with respect to these standards:

- Nonattainment (N)
- Unclassifiable/Attainment (U/A)

The national 1-hour ozone standard was revoked effective June 15, 2005, and the area designations map reflects the 2015 national 8-hour ozone standard of 0.070 ppm. Area designations were finalized on August 3, 2018.

On December 14, 2012, the U.S. EPA established a new national annual primary $PM_{2.5}$ standard of 12.0 µg/m^3. Area designations were finalized in December 2014. The current designation map reflects the most recently revised (2012) annual average standard of 12.0 µg/m^3 as well as the 24-hour standard of 35 µg/m^3, revised in 2006.

On January 22, 2010, the U.S. EPA established a new national 1-hour NO_2 standard of 100 parts per billion (ppb) and retained the annual average standard of 53 ppb. Designations for the primary NO_2 standard became effective on February 29, 2012. All areas of California meet this standard.

Sulfur Dioxide (SO_2). The U.S. EPA uses three categories to designate areas with respect to the 24-hour and annual average sulfur dioxide standards. These designation categories are:

- Nonattainment (N),
- Unclassifiable (U), and
- Unclassifiable/Attainment (U/A).

On June 2, 2010, the U.S. EPA established a new primary 1-hour SO_2 standard of 75 parts per billion (ppb). At the same time, U.S. EPA revoked the 24-hour and annual average standards. Area designations for the 1-hour SO_2 standard were finalized on December 21, 2017 and are reflected in the area designations map.

Lead (particulate). The U.S. EPA promulgated a new rolling 3-month average lead standard in October 2008 of 0.15 $\mu g/m^3$. Designations were made for this standard in November 2010.

Designation Areas

From time to time, the boundaries of the California air basins have been changed to facilitate the planning process. CARB generally initiates these changes, and they are not always reflected in the U.S. EPA's area designations. For purposes of consistency, the maps in this attachment reflect area designation boundaries and nomenclature as promulgated by the U.S. EPA. In some cases, these may not be the same as those adopted by CARB. For example, the national area designations reflect the former Southeast Desert Air Basin. In accordance with Health and Safety Code section 39606.1, CARB redefined this area in 1996 to be the Mojave Desert Air Basin and Salton Sea Air Basin. The definitions and boundaries for all areas designated for the national standards can be found in Title 40, Code of Federal Regulations (CFR), Chapter I, Subchapter C, Part 81.305. They are available on the web at: *https://ecfr.io/Title-40/se40.20.81_1305*

Figure 11

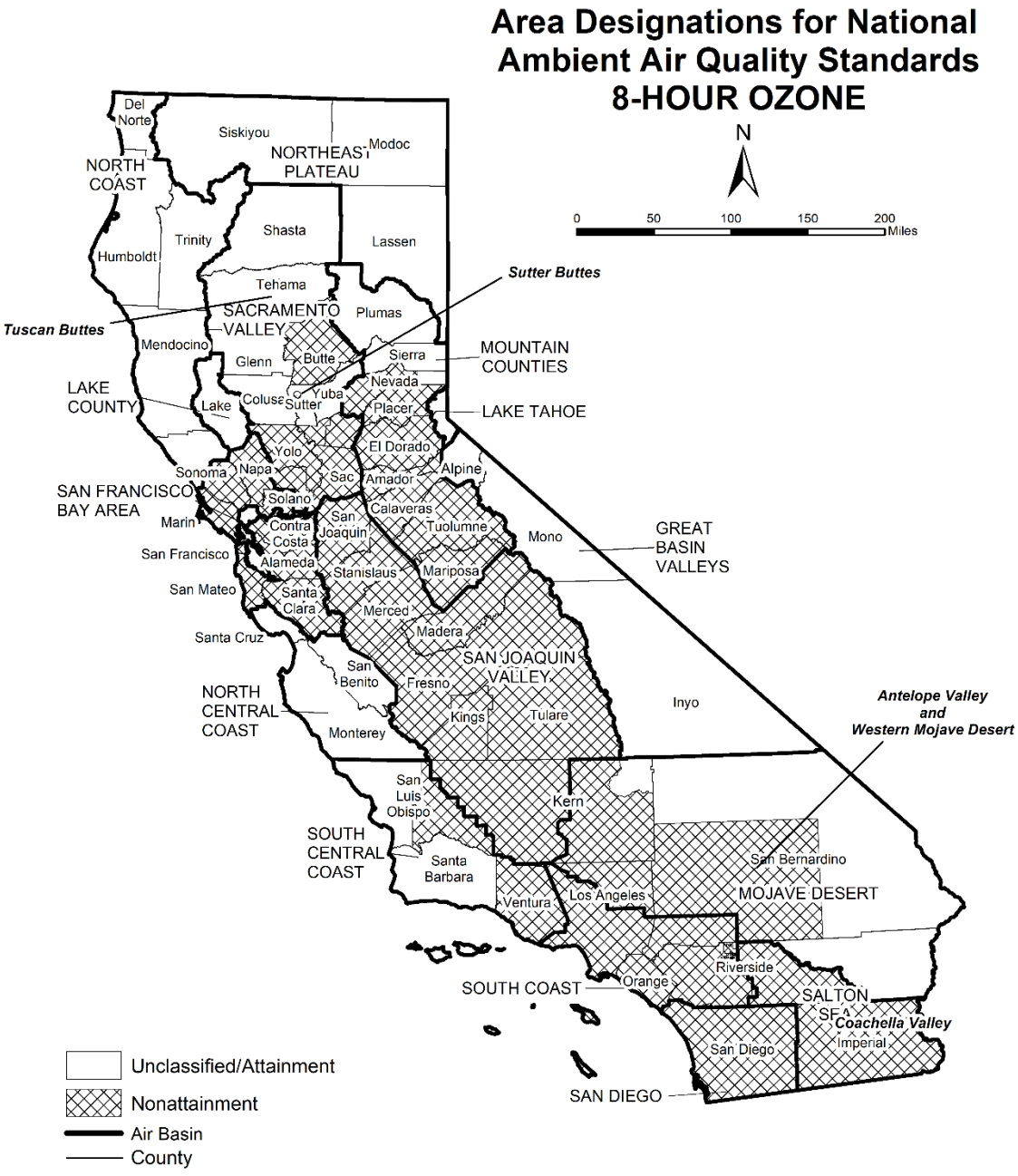

Area Designations for National Ambient Air Quality Standards
8-HOUR OZONE
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
Sutter Buttes
Tuscan Buttes
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Lake
Colusa
Yuba
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Sonoma
Napa
Sac
Amador
Alpine
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Santa Cruz
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Kings
Tulare
Inyo
Antelope Valley and Western Mojave Desert
Monterey
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
San Bernardino
Ventura
Los Angeles
MOJAVE DESERT
Riverside
SOUTH COAST
Orange
SALTON SEA
Coachella Valley
Imperial
San Diego
SAN DIEGO
Unclassified/Attainment
Nonattainment
Air Basin
County
Last Updated: November 2023
Map reflects the 2015 8-hour ozone standard of 0.070 ppm
Air Quality Planning and Science Division, CARB

Table 11
National Ambient Air Quality Standards Area Designations for 8-Hour Ozone*

Area	N	U/A
GREAT BASIN VALLEYS AIR BASIN		U/A
LAKE COUNTY AIR BASIN		U/A
LAKE TAHOE AIR BASIN		U/A
MOUNTAIN COUNTIES AIR BASIN		
Amador County	N	
Calaveras County	N	
El Dorado County (portion)[1]	N	
Mariposa County	N	
Nevada County		
- Western Nevada County	N	
- Remainder of County		U/A
Placer County (portion)[1]	N	
Plumas County		U/A
Sierra County		U/A
Tuolumne County	N	
NORTH CENTRAL COAST AIR BASIN		U/A
NORTH COAST AIR BASIN		U/A
NORTHEAST PLATEAU AIR BASIN		U/A
SACRAMENTO VALLEY AIR BASIN		
Butte County	N	
Colusa County		U/A
Glenn County		U/A
Sacramento Metro Area[1]	N	
Shasta County		U/A
Sutter County		
- Sutter Buttes	N	
- Southern portion of Sutter County[1]	N	
- Remainder of Sutter County		U/A
Tehama County		
- Tuscan Buttes	N	
- Remainder of Tehama County		U/A

Area	N	U/A
SACRAMENTO VALLEY AIR BASIN (cont.)		
Yolo County[1]	N	
Yuba County		U/A
SAN DIEGO COUNTY	N	
SAN FRANCISCO BAY AREA AIR BASIN	N	
SAN JOAQUIN VALLEY AIR BASIN	N	
SOUTH CENTRAL COAST AIR BASIN[2]		
San Luis Obispo County		
- Eastern San Luis Obispo County	N	
- Remainder of County		U/A
Santa Barbara County		U/A
Ventura County		
- Area excluding Anacapa and San Nicolas Islands	N	
- Channel Islands[2]		U/A
SOUTH COAST AIR BASIN[2]	N	
SOUTHEAST DESERT AIR BASIN		
Kern County (portion)	N	
- Indian Wells Valley		U/A
Imperial County	N	
Los Angeles County (portion)	N	
Riverside County (portion)		
- Coachella Valley	N	
- Non-AQMA portion		U/A
San Bernardino County		
- Western portion (AQMA)	N	
- Eastern portion (non-AQMA)		U/A

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.
NOTE: This map and Table reflect the 2015 8-hour ozone standard of 0.070 ppm.

---

[1] For this purpose, the Sacramento Metro Area comprises all of Sacramento and Yolo Counties, the Sacramento Valley Air Basin portion of Solano County, the southern portion of Sutter County, and the Sacramento Valley and Mountain Counties Air Basins portions of Placer and El Dorado counties.

[2] South Central Coast Air Basin Channel Islands:
Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.
Ventura County includes Anacapa and San Nicolas Islands.
South Coast Air Basin:
Los Angeles County includes San Clemente and Santa Catalina Islands.

Figure 12

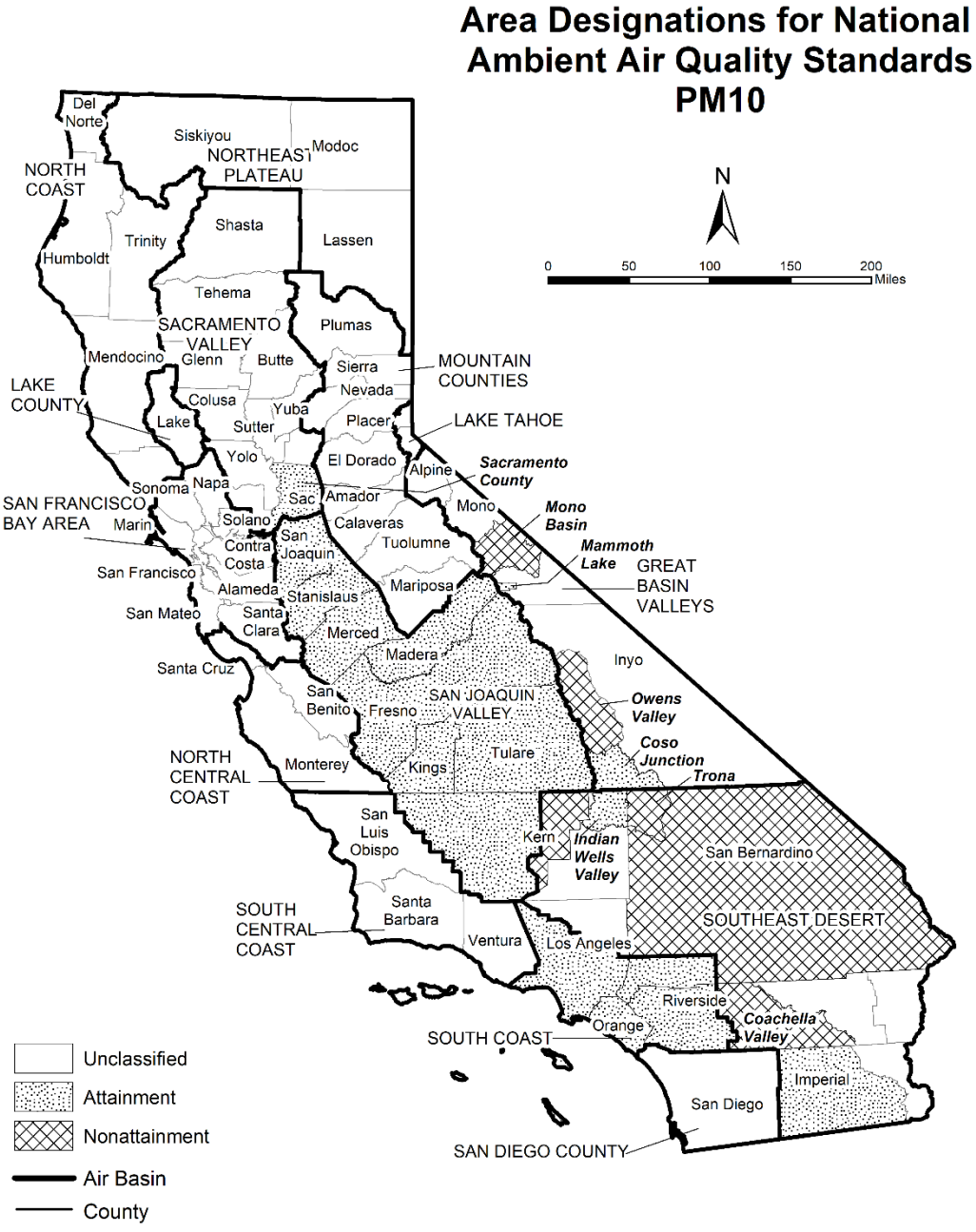

Area Designations for National Ambient Air Quality Standards PM10
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Shasta
Trinity
Lassen
Humboldt
Tehema
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
LAKE COUNTY
Colusa
Yuba
Lake
Sutter
Placer
LAKE TAHOE
Yolo
El Dorado
Alpine
Sacramento County
Sonoma
Napa
Sac
Amador
Mono
Mono Basin
SAN FRANCISCO BAY AREA
Marin
Solano
Calaveras
Contra Costa
San Joaquin
Tuolumne
Mammoth Lake
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Madera
Inyo
Santa Cruz
San Benito
Fresno
SAN JOAQUIN VALLEY
Owens Valley
Coso Junction
Trona
NORTH CENTRAL COAST
Monterey
Kings
Tulare
San Luis Obispo
Kern
Indian Wells Valley
San Bernardino
SOUTH CENTRAL COAST
Santa Barbara
Ventura
Los Angeles
SOUTHEAST DESERT
Riverside
Coachella Valley
Orange
SOUTH COAST
Imperial
San Diego
SAN DIEGO COUNTY
Unclassified
Attainment
Nonattainment
Air Basin
County
Last Updated: November 2023
Air Quality Planning and Science Division

Table 12
National Ambient Air Quality Standards Area Designations for Suspended Particulate Matter (PM_{10})*

Area	N	U	A
GREAT BASIN VALLEYS AIR BASIN			
Alpine County		U	
Inyo County			
- Owens Valley Planning Area	N		
- Coso Junction			A
- Remainder of County		U	
Mono County			
- Mammoth Lake Planning Area			A
- Mono Lake Basin	N		
- Remainder of County		U	
LAKE COUNTY AIR BASIN		U	
LAKE TAHOE AIR BASIN		U	
MOUNTAIN COUNTIES AIR BASIN		U	
NORTH CENTRAL COAST AIR BASIN		U	
NORTH COAST AIR BASIN		U	
NORTHEAST PLATEAU AIR BASIN		U	
SACRAMENTO VALLEY AIR BASIN			
Sacramento County[1]			A
Remainder of Air Basin		U	
SAN DIEGO COUNTY		U	

Area	N	U	A
SAN FRANCISCO BAY AREA AIR BASIN		U	
SAN JOAQUIN VALLEY AIR BASIN			A
SOUTH CENTRAL COAST AIR BASIN		U	
SOUTH COAST AIR BASIN			A
SOUTHEAST DESERT AIR BASIN			
Eastern Kern County			
- Indian Wells Valley			A
- Portion within San Joaquin Valley Planning Area	N		
- Remainder of County		U	
Imperial County			
- Imperial Valley Planning Area[2]			A
- Remainder of County		U	
Los Angeles County (portion)		U	
Riverside County (portion)			
- Coachella Valley	N		
- Non-AQMA portion		U	
San Bernardino County			
- Trona	N		
- Remainder of County	N		

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

[1] Air quality in Sacramento County meets the national PM_{10} standards. The request for redesignation to attainment was approved by U.S. EPA in September 2013.

[2] The request for redesignation to attainment for the Imperial Valley Planning Area was approved by U.S. EPA in September 2020, effective October 2020.

Figure 13

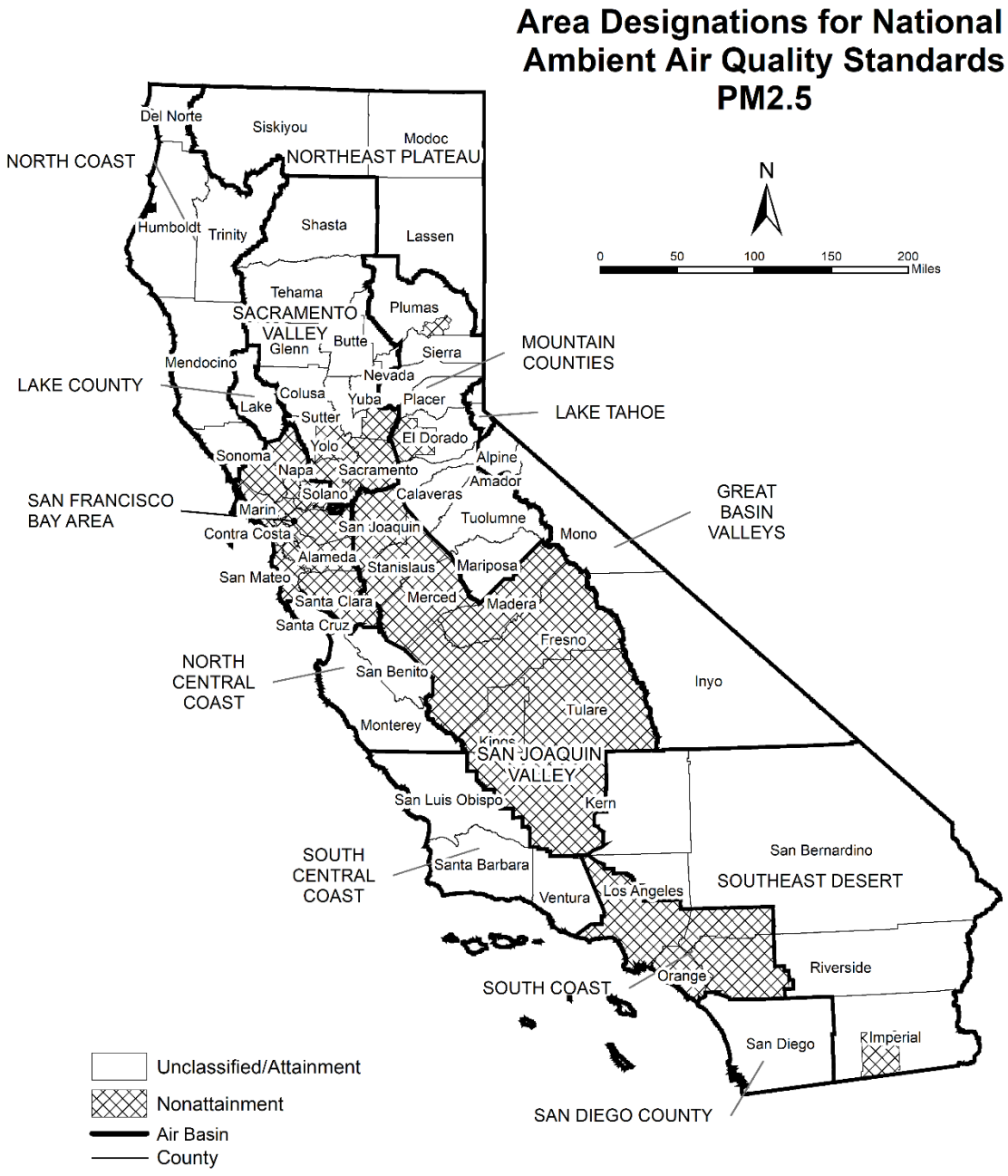

Area Designations for National Ambient Air Quality Standards PM2.5
N
0 50 100 150 200 Miles
NORTH COAST
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
Humboldt
Trinity
Shasta
Lassen
Tehama
SACRAMENTO VALLEY
Plumas
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Mendocino
Nevada
LAKE COUNTY
Colusa
Yuba
Placer
Lake
Sutter
LAKE TAHOE
El Dorado
Yolo
Sonoma
Alpine
Napa
Sacramento
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
GREAT BASIN VALLEYS
Marin
Tuolumne
Contra Costa
San Joaquin
Mono
Alameda
Stanislaus
Mariposa
San Mateo
Merced
Santa Clara
Madera
Santa Cruz
Fresno
NORTH CENTRAL COAST
San Benito
Inyo
Tulare
Monterey
Kings
SAN JOAQUIN VALLEY
San Luis Obispo
Kern
San Bernardino
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
Ventura
Los Angeles
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Last Updated: November 2023
Air Quality Planning and Science Division

Table 13
National Ambient Air Quality Standards Area Designations for Fine Particulate Matter ($PM_{2.5}$)

Area	N	U/A
GREAT BASIN VALLEYS AIR BASIN		U/A
LAKE COUNTY AIR BASIN		U/A
LAKE TAHOE AIR BASIN		U/A
MOUNTAIN COUNTIES AIR BASIN		
Plumas County		
- Portola Valley Portion of Plumas County	N	
- Remainder of Plumas County		U/A
Remainder of Air Basin		U/A
NORTH CENTRAL COAST AIR BASIN		U/A
NORTH COAST AIR BASIN		U/A
NORTHEAST PLATEAU AIR BASIN		U/A
SACRAMENTO VALLEY AIR BASIN		
Sacramento Metro Area[1]	N	
Remainder of Air Basin		U/A

Area	N	U/A
SAN DIEGO COUNTY		U/A
SAN FRANCISCO BAY AREA AIR BASIN[2]	N	
SAN JOAQUIN VALLEY AIR BASIN	N	
SOUTH CENTRAL COAST AIR BASIN		U/A
SOUTH COAST AIR BASIN[3]	N	
SOUTHEAST DESERT AIR BASIN		
Imperial County (portion)[4]	N	
Remainder of Air Basin		U/A

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305. This map reflects the 2006 24-hour $PM_{2.5}$ standard as well as the 1997 and 2012 $PM_{2.5}$ annual standards.

[1] For this purpose, Sacramento Metro Area comprises all of Sacramento and portions of El Dorado, Placer, Solano, and Yolo Counties. Air quality in this area meets the national $PM_{2.5}$ standards. A Determination of Attainment for the 2006 24-hour $PM_{2.5}$ standard was made by U.S. EPA in June 2017.

[2] Air quality in this area meets the national $PM_{2.5}$ standards. A Determination of Attainment for the 2006 24-hour $PM_{2.5}$ standard was made by U.S. EPA in June 2017.

[3] Those lands of the Santa Rosa Band of Cahulla Mission Indians in Riverside County are designated Unclassifiable/Attainment.

[4] That portion of Imperial County encompassing the urban and surrounding areas of Brawley, Calexico, El Centro, Heber, Holtville, Imperial, Seeley, and Westmorland. Air quality in this area meets the national $PM_{2.5}$ standards. A Determination of Attainment for the 2006 24-hour $PM_{2.5}$ standard was made by U.S. EPA in June 2017.

Figure 14

Last Updated: November 2023
Air Quality Planning and Science Division

Table 14
National Ambient Air Quality Standards Area Designations for Carbon Monoxide*

Area	N	U/A
GREAT BASIN VALLEYS AIR BASIN		U/A
LAKE COUNTY AIR BASIN		U/A
LAKE TAHOE AIR BASIN		U/A
MOUNTAIN COUNTIES AIR BASIN		U/A
NORTH CENTRAL COAST AIR BASIN		U/A
NORTH COAST AIR BASIN		U/A
NORTHEAST PLATEAU AIR BASIN		U/A

Area	N	U/A
SACRAMENTO VALLEY AIR BASIN		U/A
SAN DIEGO COUNTY		U/A
SAN FRANCISCO BAY AREA AIR BASIN		U/A
SAN JOAQUIN VALLEY AIR BASIN		U/A
SOUTH CENTRAL COAST AIR BASIN		U/A
SOUTH COAST AIR BASIN		U/A
SOUTHEAST DESERT AIR BASIN		U/A

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

Figure 15


Area Designations for National Ambient Air Quality Standards
NITROGEN DIOXIDE
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehema
Plumas
SACRAMENTO VALLEY
Mendocino
Glenn
Butte
Sierra
Nevada
MOUNTAIN COUNTIES
Colusa
Yuba
Placer
LAKE TAHOE
LAKE COUNTY
Lake
Sutter
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Marin
Calaveras
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
Santa Barbara
SOUTHEAST DESERT
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Air Basin
County
Last Updated: November 2023
Air Quality Planning and Science Division

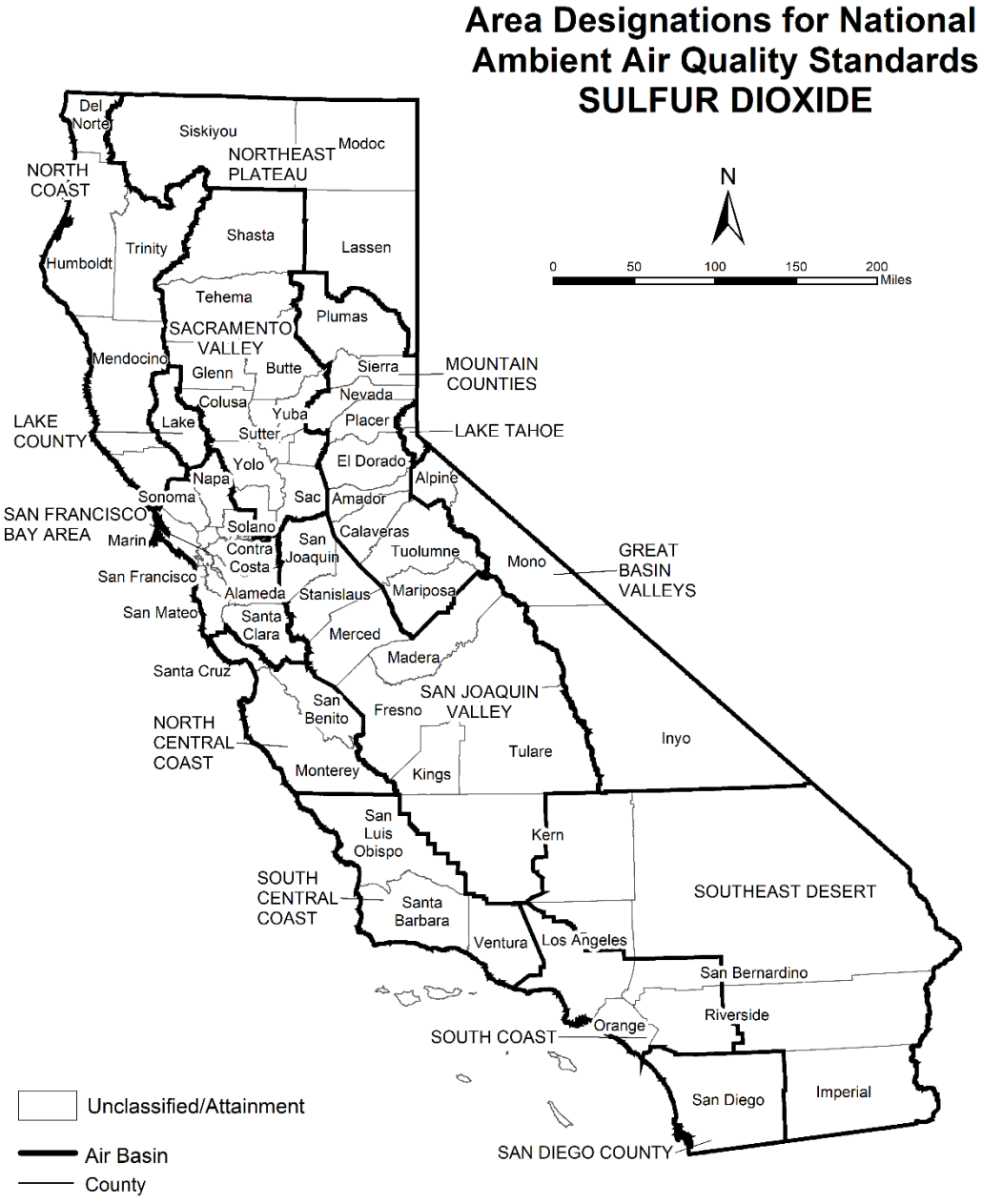
Table 15
National Ambient Air Quality Standards Area Designations for Nitrogen Dioxide*

Area	N	U/A
GREAT BASIN VALLEYS AIR BASIN		U/A
LAKE COUNTY AIR BASIN		U/A
LAKE TAHOE AIR BASIN		U/A
MOUNTAIN COUNTIES AIR BASIN		U/A
NORTH CENTRAL COAST AIR BASIN		U/A
NORTH COAST AIR BASIN		U/A
NORTHEAST PLATEAU AIR BASIN		U/A

Area	N	U/A
SACRAMENTO VALLEY AIR BASIN		U/A
SAN DIEGO COUNTY		U/A
SAN FRANCISCO BAY AREA AIR BASIN		U/A
SAN JOAQUIN VALLEY AIR BASIN		U/A
SOUTH CENTRAL COAST AIR BASIN		U/A
SOUTH COAST AIR BASIN		U/A
SOUTHEAST DESERT AIR BASIN		U/A

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.

Figure 16



Last Updated: November 2023
Air Quality Planning and Science Division

Table 16
National Ambient Air Quality Standards Area Designations for Sulfur Dioxide*

Area	N	U/A
GREAT BASIN VALLEYS AIR BASIN		U/A
LAKE COUNTY AIR BASIN		U/A
LAKE TAHOE AIR BASIN		U/A
MOUNTAIN COUNTIES AIR BASIN		U/A
NORTH CENTRAL COAST AIR BASIN		U/A
NORTH COAST AIR BASIN		U/A
NORTHEAST PLATEAU AIR BASIN		U/A
SACRAMENTO VALLEY AIR BASIN		U/A
SAN DIEGO COUNTY		U/A
SAN FRANCISCO BAY AREA AIR BASIN		U/A
SAN JOAQUIN VALLEY AIR BASIN		U/A
SOUTH CENTRAL COAST AIR BASIN[1]		U/A
SOUTH COAST AIR BASIN		U/A
SOUTHEAST DESERT AIR BASIN		U/A

* Definitions and references for all areas can be found in 40 CFR, Chapter I, Part 81.305.
NOTE: This map and table reflect the 2010 1-hour SO_2 standard of 75 ppb.

[1] South Central Coast Air Basin Channel Islands:
Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.
Ventura County includes Anacapa and San Nicolas Islands.
Note that the San Clemente and Santa Catalina Islands are considered part of Los Angeles County, and therefore, are included as part of the South Coast Air Basin.

Figure 17

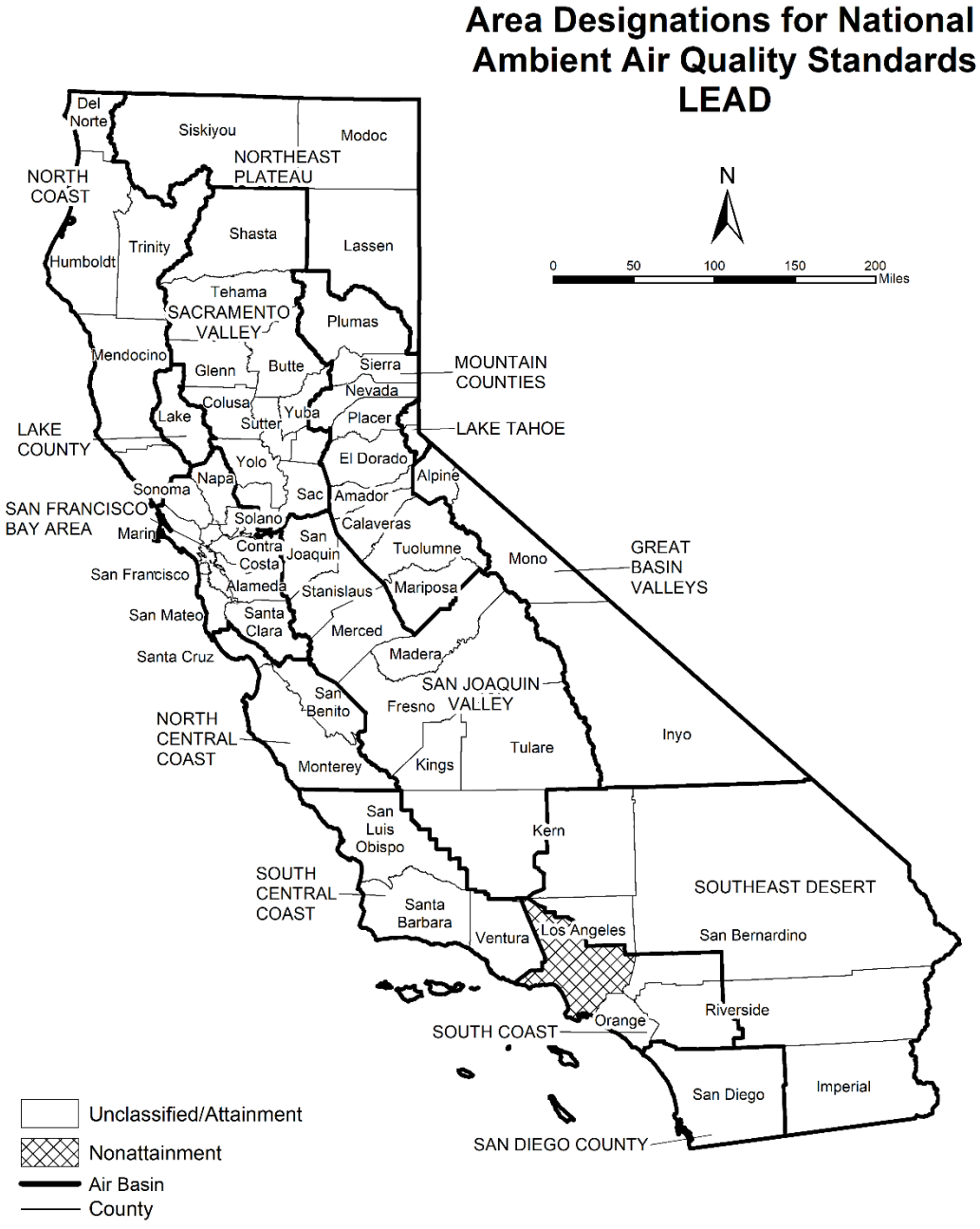

Area Designations for National Ambient Air Quality Standards
LEAD
N
0 50 100 150 200 Miles
Del Norte
Siskiyou
Modoc
NORTHEAST PLATEAU
NORTH COAST
Trinity
Shasta
Lassen
Humboldt
Tehama
SACRAMENTO VALLEY
Plumas
Mendocino
Glenn
Butte
Sierra
MOUNTAIN COUNTIES
Nevada
Colusa
Yuba
Placer
Lake
Sutter
LAKE TAHOE
LAKE COUNTY
Yolo
El Dorado
Napa
Alpine
Sonoma
Sac
Amador
SAN FRANCISCO BAY AREA
Solano
Calaveras
Marin
Contra Costa
San Joaquin
Tuolumne
Mono
GREAT BASIN VALLEYS
San Francisco
Alameda
Stanislaus
Mariposa
San Mateo
Santa Clara
Merced
Santa Cruz
Madera
SAN JOAQUIN VALLEY
San Benito
Fresno
NORTH CENTRAL COAST
Inyo
Tulare
Monterey
Kings
San Luis Obispo
Kern
SOUTH CENTRAL COAST
SOUTHEAST DESERT
Santa Barbara
Ventura
Los Angeles
San Bernardino
Riverside
Orange
SOUTH COAST
San Diego
Imperial
SAN DIEGO COUNTY
Unclassified/Attainment
Nonattainment
Air Basin
County
Last Updated: November 2023
Air Quality Planning and Science Division

Table 17
National Ambient Air Quality Standards Area Designations for Lead (particulate)

Area	N	U/A
GREAT BASIN VALLEYS AIR BASIN		U/A
LAKE COUNTY AIR BASIN		U/A
LAKE TAHOE AIR BASIN		U/A
MOUNTAIN COUNTIES AIR BASIN		U/A
NORTH CENTRAL COAST AIR BASIN		U/A
NORTH COAST AIR BASIN		U/A
NORTHEAST PLATEAU AIR BASIN		U/A
SACRAMENTO VALLEY AIR BASIN		U/A

Area	N	U/A
SAN DIEGO COUNTY		U/A
SAN FRANCISCO BAY AREA AIR BASIN		U/A
SAN JOAQUIN VALLEY AIR BASIN		U/A
SOUTH CENTRAL COAST AIR BASIN		U/A
SOUTH COAST AIR BASIN		
Los Angeles County (portion)[1]	N	
Remainder of Air Basin		U/A
SOUTHEAST DESERT AIR BASIN		U/A

[1] Portion of County in Air Basin, not including Channel Islands

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APPENDIX 5.1:

CALEEMOD CONSTRUCTION AND OPERATIONAL (UNMITIGATED) EMISSIONS MODEL OUTPUTS

14556-Moreno Valley Towne Center (Unmitigated) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14556-Moreno Valley Towne Center (Unmitigated)
Construction Start Date	11/5/2025
Operational Year	2028
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	24.0
Location	33.920986394588446, -117.193682312174
County	Riverside-South Coast
City	Moreno Valley
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5592
EDFZ	11
Electric Utility	Moreno Valley Utility
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	800	Dwelling Unit	33.1	1,440,000	9,370,286	—	2,584	—

City Park	4.80	Acre	4.80	0.00	209,088	0.00	—	—
Hotel	106	Room	1.34	58,409	0.00	—	—	—
General Office Building	15.0	1000sqft	0.34	15,000	0.00	—	—	—
Library	30.0	1000sqft	0.69	30,000	0.00	—	—	—
High Turnover (Sit Down Restaurant)	16.7	1000sqft	0.38	16,660	0.00	—	—	—
Fast Food Restaurant with Drive Thru	3.50	1000sqft	0.08	3,500	0.00	—	—	—
Regional Shopping Center	60.9	1000sqft	1.40	60,890	0.00	—	—	—
Supermarket	45.0	1000sqft	1.03	45,000	0.00	—	—	—
Parking Lot	930	Space	3.07	0.00	0.00	—	—	—
Other Asphalt Surfaces	434	1000sqft	9.97	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	194	193	31.7	64.0	0.09	1.12	6.75	7.43	1.03	1.62	2.47	—	14,890	14,890	0.55	0.73	26.9	15,149
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	194	193	70.8	76.4	0.14	3.46	8.96	12.4	3.18	3.82	7.00	—	20,122	20,122	0.63	0.85	0.73	20,391
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	30.5	30.2	20.3	33.5	0.05	0.73	4.07	4.58	0.68	0.98	1.62	—	9,052	9,052	0.25	0.49	7.31	9,212
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	5.56	5.51	3.71	6.11	0.01	0.13	0.74	0.84	0.12	0.18	0.30	—	1,499	1,499	0.04	0.08	1.21	1,525

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	5.88	5.05	31.7	64.0	0.09	1.12	5.98	7.10	1.03	1.44	2.47	—	14,890	14,890	0.55	0.73	26.9	15,149
2027	4.28	3.62	23.3	50.9	0.07	0.72	5.78	6.50	0.67	1.39	2.06	—	13,018	13,018	0.33	0.69	23.7	13,255
2028	194	193	23.5	55.3	0.07	0.67	6.75	7.43	0.62	1.62	2.24	—	14,020	14,020	0.32	0.73	24.2	14,269
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	9.26	7.79	70.8	64.2	0.12	3.46	8.96	12.4	3.18	3.82	7.00	—	13,219	13,219	0.53	0.19	0.09	13,290
2026	8.51	7.16	55.3	76.4	0.14	2.19	8.82	11.0	2.02	2.47	4.48	—	20,122	20,122	0.63	0.85	0.73	20,391
2027	4.20	3.53	23.6	44.9	0.07	0.72	5.78	6.50	0.67	1.39	2.06	—	12,616	12,616	0.33	0.69	0.62	12,830
2028	194	193	23.9	48.6	0.07	0.67	6.75	7.43	0.62	1.62	2.24	—	13,547	13,547	0.33	0.73	0.63	13,772
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.52	0.44	3.99	3.64	0.01	0.19	0.47	0.67	0.18	0.20	0.37	—	776	776	0.03	0.01	0.09	780
2026	3.39	2.87	20.3	33.5	0.05	0.73	3.69	4.43	0.68	0.94	1.62	—	8,666	8,666	0.25	0.43	6.48	8,805
2027	3.00	2.53	17.0	32.7	0.05	0.51	4.07	4.58	0.48	0.98	1.46	—	9,052	9,052	0.24	0.49	7.31	9,212
2028	30.5	30.2	13.9	27.9	0.04	0.40	3.61	4.01	0.37	0.87	1.24	—	7,779	7,779	0.19	0.42	5.79	7,917

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.10	0.08	0.73	0.66	< 0.005	0.04	0.09	0.12	0.03	0.04	0.07	—	128	128	0.01	< 0.005	0.01	129
2026	0.62	0.52	3.71	6.11	0.01	0.13	0.67	0.81	0.12	0.17	0.30	—	1,435	1,435	0.04	0.07	1.07	1,458
2027	0.55	0.46	3.10	5.97	0.01	0.09	0.74	0.84	0.09	0.18	0.27	—	1,499	1,499	0.04	0.08	1.21	1,525
2028	5.56	5.51	2.54	5.08	0.01	0.07	0.66	0.73	0.07	0.16	0.23	—	1,288	1,288	0.03	0.07	0.96	1,311

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.	138	131	78.1	567	1.34	2.69	106	109	2.63	27.0	29.6	854	166,802	167,656	94.1	6.42	755	172,675
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	127	120	81.4	451	1.26	2.65	106	109	2.60	27.0	29.6	854	159,398	160,252	94.4	6.61	419	165,000
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	119	113	63.5	446	1.07	1.58	93.3	94.8	1.53	23.7	25.2	854	132,173	133,027	93.4	5.93	543	137,672
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	21.7	20.6	11.6	81.4	0.20	0.29	17.0	17.3	0.28	4.32	4.60	141	21,883	22,024	15.5	0.98	89.9	22,793

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	91.2	85.8	55.3	501	1.19	0.86	106	107	0.80	27.0	27.8	—	122,112	122,112	5.92	5.96	344	124,381
Area	46.2	45.1	13.8	61.1	0.09	1.11	—	1.11	1.10	—	1.10	0.00	17,007	17,007	0.32	0.03	—	17,025
Energy	1.04	0.52	9.03	4.61	0.06	0.72	—	0.72	0.72	—	0.72	—	25,999	25,999	2.07	0.15	—	26,096
Water	—	—	—	—	—	—	—	—	—	—	—	105	1,683	1,789	10.9	0.27	—	2,143
Waste	—	—	—	—	—	—	—	—	—	—	—	748	0.00	748	74.8	0.00	—	2,619
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	410	410
Total	138	131	78.1	567	1.34	2.69	106	109	2.63	27.0	29.6	854	166,802	167,656	94.1	6.42	755	172,675
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	85.7	80.2	59.1	441	1.12	0.86	106	107	0.80	27.0	27.8	—	114,871	114,871	6.28	6.15	8.93	116,870
Area	40.2	39.5	13.3	5.65	0.08	1.07	—	1.07	1.07	—	1.07	0.00	16,845	16,845	0.32	0.03	—	16,862
Energy	1.04	0.52	9.03	4.61	0.06	0.72	—	0.72	0.72	—	0.72	—	25,999	25,999	2.07	0.15	—	26,096
Water	—	—	—	—	—	—	—	—	—	—	—	105	1,683	1,789	10.9	0.27	—	2,143
Waste	—	—	—	—	—	—	—	—	—	—	—	748	0.00	748	74.8	0.00	—	2,619
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	410	410
Total	127	120	81.4	451	1.26	2.65	106	109	2.60	27.0	29.6	854	159,398	160,252	94.4	6.61	419	165,000
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	74.8	70.0	53.2	403	1.01	0.76	93.3	94.0	0.72	23.7	24.4	—	103,225	103,225	5.57	5.51	132	105,137
Area	42.9	42.6	1.26	38.4	0.01	0.10	—	0.10	0.09	—	0.09	0.00	1,265	1,265	0.03	< 0.005	—	1,267
Energy	1.04	0.52	9.03	4.61	0.06	0.72	—	0.72	0.72	—	0.72	—	25,999	25,999	2.07	0.15	—	26,096
Water	—	—	—	—	—	—	—	—	—	—	—	105	1,683	1,789	10.9	0.27	—	2,143
Waste	—	—	—	—	—	—	—	—	—	—	—	748	0.00	748	74.8	0.00	—	2,619
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	410	410
Total	119	113	63.5	446	1.07	1.58	93.3	94.8	1.53	23.7	25.2	854	132,173	133,027	93.4	5.93	543	137,672
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	13.7	12.8	9.70	73.6	0.18	0.14	17.0	17.2	0.13	4.32	4.45	—	17,090	17,090	0.92	0.91	21.9	17,407
Area	7.83	7.77	0.23	7.00	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	209	209	< 0.005	< 0.005	—	210

Energy	0.19	0.10	1.65	0.84	0.01	0.13	—	0.13	0.13	—	0.13	—	4,304	4,304	0.34	0.02	—	4,320
Water	—	—	—	—	—	—	—	—	—	—	—	17.5	279	296	1.81	0.04	—	355
Waste	—	—	—	—	—	—	—	—	—	—	—	124	0.00	124	12.4	0.00	—	434
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	68.0	68.0
Total	21.7	20.6	11.6	81.4	0.20	0.29	17.0	17.3	0.28	4.32	4.60	141	21,883	22,024	15.5	0.98	89.9	22,793

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.82	4.05	37.5	32.4	0.05	1.93	—	1.93	1.78	—	1.78	—	5,528	5,528	0.22	0.04	—	5,547
Dust From Material Movement	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.21	0.18	1.64	1.42	< 0.005	0.08	—	0.08	0.08	—	0.08	—	242	242	0.01	< 0.005	—	243

Dust From Material Movement	—	—	—	—	—	—	0.25	0.25	—	0.12	0.12	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.03	0.30	0.26	< 0.005	0.02	—	0.02	0.01	—	0.01	—	40.1	40.1	< 0.005	< 0.005	—	40.3
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	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	0.08	0.07	0.08	1.02	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	227	227	0.01	0.01	0.02	230
Vendor	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	91.8	91.8	< 0.005	0.01	0.01	96.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.02	10.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.02	4.02	< 0.005	< 0.005	< 0.005	4.21
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.69

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.67	0.67	< 0.005	< 0.005	< 0.005	0.70
Hauling	0.00	0.00	0.00	0.00	0.00	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 (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	4.24	3.57	32.6	29.4	0.06	1.52	—	1.52	1.40	—	1.40	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.30	0.25	2.30	2.07	< 0.005	0.11	—	0.11	0.10	—	0.10	—	473	473	0.02	< 0.005	—	475
Dust From Material Movement	—	—	—	—	—	—	0.19	0.19	—	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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.05	0.05	0.42	0.38	< 0.005	0.02	—	0.02	0.02	—	0.02	—	78.3	78.3	< 0.005	< 0.005	—	78.6
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.10	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	259	259	0.01	0.01	0.03	262
Vendor	0.02	0.01	0.46	0.14	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	398	398	0.01	0.06	0.03	416
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.5	18.5	< 0.005	< 0.005	0.03	18.7
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.0	28.0	< 0.005	< 0.005	0.03	29.3
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.06	3.06	< 0.005	< 0.005	0.01	3.10
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.64	4.64	< 0.005	< 0.005	0.01	4.86
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (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	4.03	3.39	30.0	28.7	0.06	1.38	—	1.38	1.27	—	1.27	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.65	0.54	4.81	4.60	0.01	0.22	—	0.22	0.20	—	0.20	—	1,078	1,078	0.04	0.01	—	1,081
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.12	0.10	0.88	0.84	< 0.005	0.04	—	0.04	0.04	—	0.04	—	178	178	0.01	< 0.005	—	179

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.09	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	254	254	< 0.005	0.01	0.02	257
Vendor	0.02	0.01	0.44	0.13	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	392	392	0.01	0.06	0.03	410
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.01	0.01	0.02	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.2	41.2	< 0.005	< 0.005	0.06	41.8
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.8	62.8	< 0.005	0.01	0.07	65.8
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.82	6.82	< 0.005	< 0.005	0.01	6.92
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (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	2.56	2.14	19.6	25.2	0.05	0.75	—	0.75	0.69	—	0.69	—	4,817	4,817	0.20	0.04	—	4,833
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.56	2.14	19.6	25.2	0.05	0.75	—	0.75	0.69	—	0.69	—	4,817	4,817	0.20	0.04	—	4,833
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.42	1.19	10.9	14.0	0.03	0.42	—	0.42	0.38	—	0.38	—	2,677	2,677	0.11	0.02	—	2,686
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	0.26	0.22	1.99	2.55	< 0.005	0.08	—	0.08	0.07	—	0.07	—	443	443	0.02	< 0.005	—	445
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.75	1.58	1.46	26.7	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	5,134	5,134	0.22	0.18	17.4	5,210
Vendor	0.15	0.07	3.44	1.07	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,221	3,221	0.07	0.50	8.81	3,380
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.67	1.49	1.63	20.3	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	4,721	4,721	0.07	0.18	0.45	4,778
Vendor	0.14	0.06	3.59	1.10	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,223	3,223	0.07	0.50	0.23	3,374
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.92	0.82	0.99	11.8	0.00	0.00	2.66	2.66	0.00	0.62	0.62	—	2,657	2,657	0.04	0.10	4.18	2,693
Vendor	0.08	0.04	2.00	0.60	0.01	0.03	0.50	0.53	0.03	0.14	0.17	—	1,791	1,791	0.04	0.28	2.10	1,876
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.17	0.15	0.18	2.15	0.00	0.00	0.49	0.49	0.00	0.11	0.11	—	440	440	0.01	0.02	0.69	446
Vendor	0.01	0.01	0.37	0.11	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	296	296	0.01	0.05	0.35	311
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.06	18.7	25.1	0.05	0.67	—	0.67	0.62	—	0.62	—	4,817	4,817	0.20	0.04	—	4,833

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.46	2.06	18.7	25.1	0.05	0.67	—	0.67	0.62	—	0.62	—	4,817	4,817	0.20	0.04	—	4,833
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.76	1.47	13.4	18.0	0.03	0.48	—	0.48	0.44	—	0.44	—	3,440	3,440	0.14	0.03	—	3,452
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	0.32	0.27	2.44	3.28	0.01	0.09	—	0.09	0.08	—	0.08	—	570	570	0.02	< 0.005	—	572
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.68	1.49	1.29	24.7	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	5,039	5,039	0.06	0.18	15.7	5,109
Vendor	0.14	0.07	3.31	1.04	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,162	3,162	0.07	0.47	8.05	3,313
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.60	1.41	1.46	18.7	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	4,635	4,635	0.07	0.18	0.41	4,689
Vendor	0.14	0.06	3.46	1.07	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,164	3,164	0.07	0.47	0.21	3,308
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.14	1.01	1.15	14.0	0.00	0.00	3.42	3.42	0.00	0.80	0.80	—	3,352	3,352	0.05	0.13	4.82	3,396
Vendor	0.10	0.05	2.46	0.75	0.02	0.03	0.65	0.68	0.03	0.18	0.21	—	2,259	2,259	0.05	0.34	2.48	2,364
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.21	0.18	0.21	2.56	0.00	0.00	0.62	0.62	0.00	0.15	0.15	—	555	555	0.01	0.02	0.80	562
Vendor	0.02	0.01	0.45	0.14	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	374	374	0.01	0.06	0.41	391
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2028) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	2.37	1.98	17.8	25.1	0.05	0.60	—	0.60	0.55	—	0.55	—	4,818	4,818	0.20	0.04	—	4,834
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.37	1.98	17.8	25.1	0.05	0.60	—	0.60	0.55	—	0.55	—	4,818	4,818	0.20	0.04	—	4,834
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.44	1.21	10.8	15.3	0.03	0.37	—	0.37	0.34	—	0.34	—	2,932	2,932	0.12	0.02	—	2,942
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	0.26	0.22	1.97	2.79	0.01	0.07	—	0.07	0.06	—	0.06	—	485	485	0.02	< 0.005	—	487
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.62	1.44	1.28	23.0	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	4,945	4,945	0.06	0.18	14.0	5,013
Vendor	0.14	0.07	3.15	1.01	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,090	3,090	0.05	0.47	7.33	3,240
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.40	1.36	1.45	17.4	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	4,549	4,549	0.07	0.18	0.36	4,603
Vendor	0.14	0.06	3.29	1.04	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,093	3,093	0.05	0.47	0.19	3,235
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.84	0.82	0.88	11.2	0.00	0.00	2.92	2.92	0.00	0.68	0.68	—	2,803	2,803	0.04	0.11	3.69	2,840
Vendor	0.09	0.04	2.02	0.63	0.01	0.03	0.55	0.58	0.03	0.15	0.18	—	1,881	1,881	0.03	0.29	1.92	1,970
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.15	0.15	0.16	2.04	0.00	0.00	0.53	0.53	0.00	0.12	0.12	—	464	464	0.01	0.02	0.61	470
Vendor	0.02	0.01	0.37	0.11	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	312	312	0.01	0.05	0.32	326
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.44	0.44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.91	0.76	7.12	9.94	0.01	0.32	—	0.32	0.29	—	0.29	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.44	0.44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.19	0.16	1.50	2.10	< 0.005	0.07	—	0.07	0.06	—	0.06	—	319	319	0.01	< 0.005	—	320
Paving	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	0.03	0.03	0.27	0.38	< 0.005	0.01	—	0.01	0.01	—	0.01	—	52.8	52.8	< 0.005	< 0.005	—	52.9
Paving	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.08	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	207	207	0.01	0.01	0.70	210
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.82	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	190	190	< 0.005	0.01	0.02	193
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.01	0.02	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.6	40.6	< 0.005	< 0.005	0.06	41.2
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.73	6.73	< 0.005	< 0.005	0.01	6.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2028) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.08	1.49	< 0.005	0.02	—	0.02	0.02	—	0.02	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	190	190	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.08	1.49	< 0.005	0.02	—	0.02	0.02	—	0.02	—	178	178	0.01	< 0.005	—	179

Architectural Coating	190	190	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.03	0.02	0.16	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.3	26.3	< 0.005	< 0.005	—	26.4
Architectural Coatings	28.0	28.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.03	0.04	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	4.36	4.36	< 0.005	< 0.005	—	4.38
Architectural Coatings	5.12	5.12	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.26	4.61	0.00	0.00	0.97	0.97	0.00	0.23	0.23	—	989	989	0.01	0.04	2.81	1,003
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.27	0.29	3.49	0.00	0.00	0.97	0.97	0.00	0.23	0.23	—	910	910	0.01	0.04	0.07	921
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.04	0.04	0.04	0.54	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	136	136	< 0.005	0.01	0.18	138
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	22.6	22.6	< 0.005	< 0.005	0.03	22.9
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	0.00	0.00	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	27.6	25.8	17.7	162	0.40	0.28	35.4	35.7	0.26	8.98	9.25	—	40,487	40,487	1.86	1.92	115	41,221
City Park	0.04	0.04	0.04	0.40	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	111	111	< 0.005	< 0.005	0.32	113

Hotel	3.14	2.94	2.07	19.1	0.05	0.03	4.23	4.26	0.03	1.07	1.11	—	4,830	4,830	0.22	0.23	13.7	4,917
General Office Building	0.82	0.75	0.75	7.30	0.02	0.01	1.80	1.81	0.01	0.46	0.47	—	2,026	2,026	0.07	0.09	5.83	2,059
Library	9.59	8.83	7.70	73.7	0.19	0.13	17.5	17.7	0.13	4.45	4.58	—	19,812	19,812	0.75	0.86	56.8	20,145
High Turnover (Sit Down Restaurant)	7.68	7.39	3.23	26.3	0.05	0.04	4.13	4.17	0.04	1.05	1.09	—	4,993	4,993	0.40	0.32	13.4	5,113
Fast Food Restaurant with Drive Thru	7.24	6.90	3.58	30.8	0.07	0.05	5.70	5.75	0.05	1.45	1.49	—	6,686	6,686	0.41	0.37	18.5	6,826
Regional Shopping Center	16.9	16.1	9.00	79.0	0.18	0.13	15.5	15.6	0.12	3.93	4.05	—	17,999	17,999	1.01	0.95	50.2	18,358
Supermarket	18.2	17.1	11.3	102	0.25	0.18	21.9	22.1	0.17	5.57	5.73	—	25,167	25,167	1.20	1.22	71.1	25,631
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	91.2	85.8	55.3	501	1.19	0.86	106	107	0.80	27.0	27.8	—	122,112	122,112	5.92	5.96	344	124,381
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	25.9	24.2	18.9	141	0.37	0.28	35.4	35.7	0.26	8.98	9.25	—	38,074	38,074	1.96	1.98	2.97	38,717
City Park	0.04	0.04	0.04	0.33	< 0.005	< 0.005	0.10	0.10	< 0.005	0.03	0.03	—	104	104	< 0.005	< 0.005	0.01	106

Hotel	2.96	2.75	2.22	16.6	0.04	0.03	4.23	4.26	0.03	1.07	1.11	—	4,542	4,542	0.23	0.23	0.36	4,617
General Office Building	0.78	0.70	0.80	6.06	0.02	0.01	1.80	1.81	0.01	0.46	0.47	—	1,902	1,902	0.07	0.09	0.15	1,931
Library	9.06	8.29	8.25	62.1	0.18	0.13	17.5	17.7	0.13	4.45	4.58	—	18,614	18,614	0.78	0.89	1.47	18,900
High Turnover (Sit Down Restaurant)	7.18	6.88	3.44	25.1	0.05	0.04	4.13	4.17	0.04	1.05	1.09	—	4,715	4,715	0.43	0.33	0.35	4,826
Fast Food Restaurant with Drive Thru	6.78	6.44	3.82	28.2	0.06	0.05	5.70	5.75	0.05	1.45	1.49	—	6,300	6,300	0.44	0.38	0.48	6,426
Regional Shopping Center	15.8	15.0	9.61	71.2	0.17	0.13	15.5	15.6	0.12	3.93	4.05	—	16,948	16,948	1.08	0.98	1.30	17,268
Supermarket	17.1	16.0	12.0	89.7	0.23	0.18	21.9	22.1	0.17	5.57	5.73	—	23,672	23,672	1.27	1.26	1.84	24,080
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	85.7	80.2	59.1	441	1.12	0.86	106	107	0.80	27.0	27.8	—	114,871	114,871	6.28	6.15	8.93	116,870
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	4.60	4.28	3.44	26.1	0.07	0.05	6.24	6.29	0.05	1.58	1.63	—	6,242	6,242	0.32	0.32	8.04	6,354
City Park	< 0.005	< 0.005	< 0.005	0.03	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	9.44	9.44	< 0.005	< 0.005	0.01	9.59
Hotel	0.51	0.47	0.39	2.99	0.01	0.01	0.73	0.73	0.01	0.18	0.19	—	726	726	0.04	0.04	0.94	738

General Office Building	0.11	0.09	0.11	0.86	< 0.005	< 0.005	0.24	0.24	< 0.005	0.06	0.06	—	237	237	0.01	0.01	0.31	241
Library	1.41	1.29	1.32	10.1	0.03	0.02	2.71	2.73	0.02	0.69	0.71	—	2,677	2,677	0.11	0.13	3.49	2,722
High Turnover (Sit Down Restaurant)	1.04	1.00	0.51	3.77	0.01	0.01	0.60	0.60	0.01	0.15	0.16	—	632	632	0.06	0.04	0.77	647
Fast Food Restaurant with Drive Thru	0.97	0.92	0.56	4.20	0.01	0.01	0.81	0.82	0.01	0.21	0.21	—	836	836	0.06	0.05	1.05	854
Regional Shopping Center	2.33	2.20	1.44	10.9	0.02	0.02	2.26	2.28	0.02	0.57	0.59	—	2,302	2,302	0.15	0.13	2.92	2,348
Supermarket	2.68	2.51	1.93	14.7	0.04	0.03	3.42	3.45	0.03	0.87	0.89	—	3,430	3,430	0.18	0.18	4.41	3,493
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Total	13.7	12.8	9.70	73.6	0.18	0.14	17.0	17.2	0.13	4.32	4.45	—	17,090	17,090	0.92	0.91	21.9	17,407

4.2. Energy

4.2.1. Electricity Emissions By Land Use - Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	9,277	9,277	0.68	0.08	—	9,318
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,168	1,168	0.09	0.01	—	1,174
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	325	325	0.02	< 0.005	—	326
Library	—	—	—	—	—	—	—	—	—	—	—	—	356	356	0.03	< 0.005	—	358
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	726	726	0.05	0.01	—	730
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	153	153	0.01	< 0.005	—	153
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	738	738	0.05	0.01	—	741
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	1,792	1,792	0.13	0.02	—	1,800
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	145	145	0.01	< 0.005	—	146
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	14,681	14,681	1.07	0.13	—	14,747

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	9,277	9,277	0.68	0.08	—	9,318
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	1,168	1,168	0.09	0.01	—	1,174
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	325	325	0.02	< 0.005	—	326
Library	—	—	—	—	—	—	—	—	—	—	—	—	356	356	0.03	< 0.005	—	358
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	726	726	0.05	0.01	—	730
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	153	153	0.01	< 0.005	—	153
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	738	738	0.05	0.01	—	741
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	1,792	1,792	0.13	0.02	—	1,800
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	145	145	0.01	< 0.005	—	146
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	14,681	14,681	1.07	0.13	—	14,747

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	1,536	1,536	0.11	0.01	—	1,543
City Park	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	193	193	0.01	< 0.005	—	194
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	53.8	53.8	< 0.005	< 0.005	—	54.0
Library	—	—	—	—	—	—	—	—	—	—	—	—	59.0	59.0	< 0.005	< 0.005	—	59.3
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	120	120	0.01	< 0.005	—	121
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	25.3	25.3	< 0.005	< 0.005	—	25.4
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	122	122	0.01	< 0.005	—	123
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	297	297	0.02	< 0.005	—	298
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	24.1	24.1	< 0.005	< 0.005	—	24.2
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,431	2,431	0.18	0.02	—	2,441

4.2.3. Natural Gas Emissions By Land Use - Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.84	0.42	7.18	3.06	0.05	0.58	—	0.58	0.58	—	0.58	—	9,118	9,118	0.81	0.02	—	9,144
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.05	0.03	0.47	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	559	559	0.05	< 0.005	—	561
General Office Building	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	133
Library	0.04	0.02	0.35	0.29	< 0.005	0.03	—	0.03	0.03	—	0.03	—	413	413	0.04	< 0.005	—	414
High Turnover (Sit Down Restaurant)	0.06	0.03	0.51	0.43	< 0.005	0.04	—	0.04	0.04	—	0.04	—	609	609	0.05	< 0.005	—	611
Fast Food Restaurant with Drive Thru	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	128	128	0.01	< 0.005	—	128
Regional Shopping Center	0.01	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	116	116	0.01	< 0.005	—	116
Supermarket	0.02	0.01	0.20	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	242	242	0.02	< 0.005	—	243

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	1.04	0.52	9.03	4.61	0.06	0.72	—	0.72	0.72	—	0.72	—	11,318	11,318	1.00	0.02	—	11,349
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.84	0.42	7.18	3.06	0.05	0.58	—	0.58	0.58	—	0.58	—	9,118	9,118	0.81	0.02	—	9,144
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.05	0.03	0.47	0.39	< 0.005	0.04	—	0.04	0.04	—	0.04	—	559	559	0.05	< 0.005	—	561
General Office Building	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	133	133	0.01	< 0.005	—	133
Library	0.04	0.02	0.35	0.29	< 0.005	0.03	—	0.03	0.03	—	0.03	—	413	413	0.04	< 0.005	—	414
High Turnover (Sit Down Restaurant)	0.06	0.03	0.51	0.43	< 0.005	0.04	—	0.04	0.04	—	0.04	—	609	609	0.05	< 0.005	—	611
Fast Food Restaurant with Drive Thru	0.01	0.01	0.11	0.09	< 0.005	0.01	—	0.01	0.01	—	0.01	—	128	128	0.01	< 0.005	—	128
Regional Shopping Center	0.01	0.01	0.10	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	116	116	0.01	< 0.005	—	116
Supermarket	0.02	0.01	0.20	0.17	< 0.005	0.02	—	0.02	0.02	—	0.02	—	242	242	0.02	< 0.005	—	243

Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	1.04	0.52	9.03	4.61	0.06	0.72	—	0.72	0.72	—	0.72	—	11,318	11,318	1.00	0.02	—	11,349
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	0.15	0.08	1.31	0.56	0.01	0.11	—	0.11	0.11	—	0.11	—	1,510	1,510	0.13	< 0.005	—	1,514
City Park	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Hotel	0.01	< 0.005	0.09	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	—	92.6	92.6	0.01	< 0.005	—	92.9
General Office Building	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	22.0	22.0	< 0.005	< 0.005	—	22.0
Library	0.01	< 0.005	0.06	0.05	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	68.4	68.4	0.01	< 0.005	—	68.6
High Turnover (Sit Down Restaurant)	0.01	0.01	0.09	0.08	< 0.005	0.01	—	0.01	0.01	—	0.01	—	101	101	0.01	< 0.005	—	101
Fast Food Restaurant with Drive Thru	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	21.2	21.2	< 0.005	< 0.005	—	21.2
Regional Shopping Center	< 0.005	< 0.005	0.02	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	19.1	19.1	< 0.005	< 0.005	—	19.2
Supermarket	< 0.005	< 0.005	0.04	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.1	40.1	< 0.005	< 0.005	—	40.2
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00

Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Total	0.19	0.10	1.65	0.84	0.01	0.13	—	0.13	0.13	—	0.13	—	1,874	1,874	0.17	< 0.005	—	1,879

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	1.55	0.78	13.3	5.65	0.08	1.07	—	1.07	1.07	—	1.07	0.00	16,845	16,845	0.32	0.03	—	16,862
Consumer Products	35.9	35.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	2.80	2.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	5.95	5.59	0.51	55.4	< 0.005	0.04	—	0.04	0.03	—	0.03	—	162	162	0.01	< 0.005	—	163
Total	46.2	45.1	13.8	61.1	0.09	1.11	—	1.11	1.10	—	1.10	0.00	17,007	17,007	0.32	0.03	—	17,025
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	1.55	0.78	13.3	5.65	0.08	1.07	—	1.07	1.07	—	1.07	0.00	16,845	16,845	0.32	0.03	—	16,862
Consumer Products	35.9	35.9	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Architect Coatings	2.80	2.80	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	40.2	39.5	13.3	5.65	0.08	1.07	—	1.07	1.07	—	1.07	0.00	16,845	16,845	0.32	0.03	—	16,862
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Hearths	0.02	0.01	0.17	0.07	< 0.005	0.01	—	0.01	0.01	—	0.01	0.00	191	191	< 0.005	< 0.005	—	191
Consumer Products	6.55	6.55	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	0.51	0.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.74	0.70	0.06	6.93	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.4	18.4	< 0.005	< 0.005	—	18.5
Total	7.83	7.77	0.23	7.00	< 0.005	0.02	—	0.02	0.02	—	0.02	0.00	209	209	< 0.005	< 0.005	—	210

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	62.4	1,472	1,534	6.50	0.16	—	1,746
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	21.8	21.8	< 0.005	< 0.005	—	21.9
Hotel	—	—	—	—	—	—	—	—	—	—	—	5.15	22.7	27.9	0.53	0.01	—	44.9

General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.11	22.5	27.6	0.53	0.01	—	44.5
Library	—	—	—	—	—	—	—	—	—	—	—	1.80	7.93	9.73	0.19	< 0.005	—	15.7
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	9.69	42.7	52.4	1.00	0.02	—	84.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.04	8.98	11.0	0.21	0.01	—	17.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	8.64	38.1	46.8	0.89	0.02	—	75.4
Supermarket	—	—	—	—	—	—	—	—	—	—	—	10.6	46.9	57.5	1.09	0.03	—	92.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	105	1,683	1,789	10.9	0.27	—	2,143
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	62.4	1,472	1,534	6.50	0.16	—	1,746
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	21.8	21.8	< 0.005	< 0.005	—	21.9
Hotel	—	—	—	—	—	—	—	—	—	—	—	5.15	22.7	27.9	0.53	0.01	—	44.9

General Office Building	—	—	—	—	—	—	—	—	—	—	—	5.11	22.5	27.6	0.53	0.01	—	44.5
Library	—	—	—	—	—	—	—	—	—	—	—	1.80	7.93	9.73	0.19	< 0.005	—	15.7
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	9.69	42.7	52.4	1.00	0.02	—	84.5
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	2.04	8.98	11.0	0.21	0.01	—	17.8
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	8.64	38.1	46.8	0.89	0.02	—	75.4
Supermarket	—	—	—	—	—	—	—	—	—	—	—	10.6	46.9	57.5	1.09	0.03	—	92.7
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	105	1,683	1,789	10.9	0.27	—	2,143
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	10.3	244	254	1.08	0.03	—	289
City Park	—	—	—	—	—	—	—	—	—	—	—	0.00	3.62	3.62	< 0.005	< 0.005	—	3.63
Hotel	—	—	—	—	—	—	—	—	—	—	—	0.85	3.76	4.62	0.09	< 0.005	—	7.44

General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.85	3.73	4.58	0.09	< 0.005	—	7.38
Library	—	—	—	—	—	—	—	—	—	—	—	0.30	1.31	1.61	0.03	< 0.005	—	2.60
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	1.60	7.08	8.68	0.17	< 0.005	—	14.0
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	0.34	1.49	1.82	0.03	< 0.005	—	2.94
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	1.43	6.31	7.74	0.15	< 0.005	—	12.5
Supermarket	—	—	—	—	—	—	—	—	—	—	—	1.76	7.76	9.52	0.18	< 0.005	—	15.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	17.5	279	296	1.81	0.04	—	355

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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	395	0.00	395	39.5	0.00	—	1,381
City Park	—	—	—	—	—	—	—	—	—	—	—	0.22	0.00	0.22	0.02	0.00	—	0.78
Hotel	—	—	—	—	—	—	—	—	—	—	—	31.3	0.00	31.3	3.13	0.00	—	109
General Office Building	—	—	—	—	—	—	—	—	—	—	—	7.52	0.00	7.52	0.75	0.00	—	26.3
Library	—	—	—	—	—	—	—	—	—	—	—	14.9	0.00	14.9	1.49	0.00	—	52.1
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	107	0.00	107	10.7	0.00	—	374
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	21.7	0.00	21.7	2.17	0.00	—	76.0
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	34.5	0.00	34.5	3.44	0.00	—	121
Supermarket	—	—	—	—	—	—	—	—	—	—	—	137	0.00	137	13.7	0.00	—	479
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	748	0.00	748	74.8	0.00	—	2,619

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	395	0.00	395	39.5	0.00	—	1,381
City Park	—	—	—	—	—	—	—	—	—	—	—	0.22	0.00	0.22	0.02	0.00	—	0.78
Hotel	—	—	—	—	—	—	—	—	—	—	—	31.3	0.00	31.3	3.13	0.00	—	109
General Office Building	—	—	—	—	—	—	—	—	—	—	—	7.52	0.00	7.52	0.75	0.00	—	26.3
Library	—	—	—	—	—	—	—	—	—	—	—	14.9	0.00	14.9	1.49	0.00	—	52.1
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	107	0.00	107	10.7	0.00	—	374
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	21.7	0.00	21.7	2.17	0.00	—	76.0
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	34.5	0.00	34.5	3.44	0.00	—	121
Supermarket	—	—	—	—	—	—	—	—	—	—	—	137	0.00	137	13.7	0.00	—	479
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	748	0.00	748	74.8	0.00	—	2,619

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	65.4	0.00	65.4	6.53	0.00	—	229
City Park	—	—	—	—	—	—	—	—	—	—	—	0.04	0.00	0.04	< 0.005	0.00	—	0.13
Hotel	—	—	—	—	—	—	—	—	—	—	—	5.18	0.00	5.18	0.52	0.00	—	18.1
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.24	0.00	1.24	0.12	0.00	—	4.35
Library	—	—	—	—	—	—	—	—	—	—	—	2.47	0.00	2.47	0.25	0.00	—	8.62
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	17.7	0.00	17.7	1.77	0.00	—	61.9
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	3.60	0.00	3.60	0.36	0.00	—	12.6
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	5.70	0.00	5.70	0.57	0.00	—	20.0
Supermarket	—	—	—	—	—	—	—	—	—	—	—	22.6	0.00	22.6	2.26	0.00	—	79.2
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	124	0.00	124	12.4	0.00	—	434

4.6. Refrigerant Emissions by Land Use

4.6.1. Unmitigated

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

Land Use	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.22	9.22
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.8	32.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Library	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.35	9.35
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.96	1.96
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.23	0.23

Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	357	357
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	410	410
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.22	9.22
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	32.8	32.8
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.02	0.02
Library	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	9.35	9.35
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.96	1.96
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.23	0.23
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	357	357
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	410	410
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Single Family Housing	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.53	1.53
City Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00
Hotel	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	5.43	5.43
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Library	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.01	0.01
High Turnover (Sit Down Restaurant)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	1.55	1.55
Fast Food Restaurant with Drive Thru	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.33	0.33
Regional Shopping Center	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	0.04	0.04
Supermarket	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	59.1	59.1
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	68.0	68.0

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

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	11/5/2025	11/26/2025	5.00	16.0	—

Grading	Grading	11/26/2025	03/23/2026	5.00	84.0	—
Building Construction	Building Construction	03/23/2026	11/6/2028	5.00	686	—
Paving	Paving	07/23/2026	11/6/2026	5.00	77.0	—
Architectural Coating	Architectural Coating	08/23/2028	11/6/2028	5.00	54.0	—

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	Rubber Tired Dozers	Diesel	Average	3.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Average	4.00	8.00	87.0	0.43
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Average	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Average	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Average	2.00	8.00	423	0.48
Grading	Crawler Tractors	Diesel	Average	2.00	8.00	87.0	0.43
Building Construction	Cranes	Diesel	Average	2.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	5.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	5.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Average	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	3.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	13.0	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	372	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	107	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	74.5	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT
Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	2,916,000	972,000	344,189	114,730	34,081

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	—	—	320	0.00	—
Grading	—	—	1,680	0.00	—
Paving	0.00	0.00	0.00	0.00	21.9

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	8.82	0%
City Park	0.00	0%
Hotel	0.00	0%
General Office Building	0.00	0%

Library	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Regional Shopping Center	0.00	0%
Supermarket	0.00	0%
Parking Lot	3.07	100%
Other Asphalt Surfaces	9.97	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	453	0.03	< 0.005
2026	0.00	453	0.03	< 0.005
2027	0.00	453	0.03	< 0.005
2028	0.00	453	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
Single Family Housing	7,544	7,584	6,784	2,716,017	49,727	49,990	44,717	17,902,768
City Park	4.00	9.41	10.5	2,082	53.0	125	139	27,578
Hotel	848	855	630	298,521	5,923	5,975	4,398	2,085,156
General Office Building	192	33.1	10.5	52,333	2,544	439	139	693,376
Library	2,162	2,403	1,263	754,815	22,281	24,760	13,012	7,778,475
High Turnover (Sit Down Restaurant)	1,786	2,039	2,376	695,863	4,387	5,009	5,837	1,709,283

Fast Food Restaurant with Drive Thru	1,636	2,156	1,654	625,218	6,107	8,050	6,175	2,334,026
Regional Shopping Center	4,112	4,936	2,599	1,464,935	18,216	21,868	11,513	6,489,740
Supermarket	4,224	5,074	4,609	1,606,201	25,801	30,993	28,151	9,810,512
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Other Asphalt Surfaces	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

5.10. Operational Area Sources

5.10.1. Hearths

5.10.1.1. Unmitigated

Hearth Type	Unmitigated (number)
Single Family Housing	—
Wood Fireplaces	0
Gas Fireplaces	800
Propane Fireplaces	0
Electric Fireplaces	0
No Fireplaces	0
Conventional Wood Stoves	0
Catalytic Wood Stoves	0
Non-Catalytic Wood Stoves	0
Pellet Wood Stoves	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)

2916000	972,000	344,189	114,730	34,081

5.10.3. Landscape Equipment

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

5.11. Operational Energy Consumption

5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Single Family Housing	7,471,395	453	0.0330	0.0040	28,451,451
City Park	0.00	453	0.0330	0.0040	0.00
Hotel	940,998	453	0.0330	0.0040	1,745,474
General Office Building	261,648	453	0.0330	0.0040	413,800
Library	287,072	453	0.0330	0.0040	1,288,510
High Turnover (Sit Down Restaurant)	585,014	453	0.0330	0.0040	1,900,220
Fast Food Restaurant with Drive Thru	122,902	453	0.0330	0.0040	399,206
Regional Shopping Center	594,189	453	0.0330	0.0040	360,601
Supermarket	1,443,587	453	0.0330	0.0040	755,314
Parking Lot	117,147	453	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	453	0.0330	0.0040	0.00

5.12. Operational Water and Wastewater Consumption

5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Single Family Housing	32,539,020	181,588,668
City Park	0.00	3,315,245
Hotel	2,688,878	0.00
General Office Building	2,666,006	0.00
Library	938,667	0.00
High Turnover (Sit Down Restaurant)	5,056,872	0.00
Fast Food Restaurant with Drive Thru	1,062,368	0.00
Regional Shopping Center	4,510,276	0.00
Supermarket	5,547,070	0.00
Parking Lot	0.00	0.00
Other Asphalt Surfaces	0.00	0.00

5.13. Operational Waste Generation

5.13.1. Unmitigated

Land Use	Waste (ton/year)	Cogeneration (kWh/year)
Single Family Housing	732	—
City Park	0.41	—
Hotel	58.0	—
General Office Building	14.0	—
Library	27.6	—
High Turnover (Sit Down Restaurant)	198	—
Fast Food Restaurant with Drive Thru	40.3	—
Regional Shopping Center	63.9	—
Supermarket	254	—
Parking Lot	0.00	—
Other Asphalt Surfaces	0.00	—

5.14. Operational Refrigeration and Air Conditioning Equipment

5.14.1. Unmitigated

Land Use Type	Equipment Type	Refrigerant	GWP	Quantity (kg)	Operations Leak Rate	Service Leak Rate	Times Serviced
Single Family Housing	Average room A/C & Other residential A/C and heat pumps	User Defined	750	< 0.005	2.50	2.50	10.0
Single Family Housing	Household refrigerators and/or freezers	R-134a	1,430	0.12	0.60	0.00	1.00
City Park	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
City Park	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Hotel	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Hotel	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
Hotel	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
General Office Building	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
General Office Building	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
Library	Household refrigerators and/or freezers	R-134a	1,430	0.02	0.60	0.00	1.00
Library	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
Library	Stand-alone retail refrigerators and freezers	R-134a	1,430	< 0.005	1.00	0.00	1.00

Library	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
High Turnover (Sit Down Restaurant)	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
High Turnover (Sit Down Restaurant)	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
High Turnover (Sit Down Restaurant)	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Fast Food Restaurant with Drive Thru	Household refrigerators and/or freezers	R-134a	1,430	0.00	0.60	0.00	1.00
Fast Food Restaurant with Drive Thru	Other commercial A/C and heat pumps	User Defined	750	1.80	4.00	4.00	18.0
Fast Food Restaurant with Drive Thru	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
Regional Shopping Center	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
Regional Shopping Center	Stand-alone retail refrigerators and freezers	R-134a	1,430	0.04	1.00	0.00	1.00
Supermarket	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
Supermarket	Supermarket refrigeration and condensing units	User Defined	150	26.5	16.5	16.5	18.0

5.15. Operational Off-Road Equipment

5.15.1. Unmitigated

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

5.16. Stationary Sources

5.16.1. Emergency Generators and Fire Pumps

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

5.16.2. Process Boilers

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

5.17. User Defined

Equipment Type	Fuel Type

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	28.0	annual days of extreme heat
Extreme Precipitation	2.05	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.76	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	3	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	1	0	0	N/A
Wildfire	1	0	0	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	N/A	N/A	N/A	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	0	0	0	N/A

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	99.1

AQ-PM	56.1
AQ-DPM	64.1
Drinking Water	10.2
Lead Risk Housing	19.2
Pesticides	62.3
Toxic Releases	54.3
Traffic	43.8
Effect Indicators	—
CleanUp Sites	17.1
Groundwater	0.00
Haz Waste Facilities/Generators	40.9
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	72.0
Cardio-vascular	93.5
Low Birth Weights	68.4
Socioeconomic Factor Indicators	—
Education	49.4
Housing	62.4
Linguistic	56.3
Poverty	60.6
Unemployment	58.4

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	46.40061594
Employed	68.38188118
Median HI	54.09983318
Education	—
Bachelor's or higher	45.52803798
High school enrollment	100
Preschool enrollment	16.32234056
Transportation	—
Auto Access	70.20402926
Active commuting	11.88245862
Social	—
2-parent households	45.51520595
Voting	16.7842936
Neighborhood	—
Alcohol availability	82.6767612
Park access	53.93301681
Retail density	39.66380085
Supermarket access	38.16245348
Tree canopy	0.898242012
Housing	—
Homeownership	49.23649429
Housing habitability	68.70268189
Low-inc homeowner severe housing cost burden	15.42409855
Low-inc renter severe housing cost burden	85.268831
Uncrowded housing	85.268831
Health Outcomes	—
Insured adults	21.95560118
Arthritis	90.5

Asthma ER Admissions	30.2
High Blood Pressure	79.9
Cancer (excluding skin)	85.3
Asthma	49.0
Coronary Heart Disease	94.7
Chronic Obstructive Pulmonary Disease	86.1
Diagnosed Diabetes	80.8
Life Expectancy at Birth	17.2
Cognitively Disabled	33.5
Physically Disabled	52.4
Heart Attack ER Admissions	3.3
Mental Health Not Good	51.7
Chronic Kidney Disease	90.3
Obesity	37.0
Pedestrian Injuries	19.6
Physical Health Not Good	69.2
Stroke	88.3
Health Risk Behaviors	—
Binge Drinking	20.5
Current Smoker	45.9
No Leisure Time for Physical Activity	52.7
Climate Change Exposures	—
Wildfire Risk	18.6
SLR Inundation Area	0.0
Children	35.2
Elderly	94.0
English Speaking	77.1
Foreign-born	60.7

Outdoor Workers	46.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	84.1
Traffic Density	36.6
Traffic Access	23.0
Other Indices	—
Hardship	35.1
Other Decision Support	—
2016 Voting	26.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	63.0
Healthy Places Index Score for Project Location (b)	42.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses modeled consistent with information provided in Traffic and on Site Plan
Construction: Construction Phases	Taken from latest provided construction schedule
Construction: Off-Road Equipment	Construction equipment based on consultation with the Project Team
Construction: Dust From Material Movement	Analysis conservatively assumes that up to 20 acres can be disturbed per day As such, the “Total Acres Graded” field in CalEEMod has been revised to 320 acres for site preparation (20 acres disturbed per day x 16 working days) and 1680 acres for grading activities (20 acres disturbed per day x 84 working days)
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	SCAQMD Rule 1113
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis Pass-by and internal capture was accounted for in the "Pass By Trip" category.
Operations: Hearths	SCAQMD Rule 445
Characteristics: Project Details	—
Operations: Architectural Coatings	SCAQMD Rule 1113
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Further, R-404A (the CalEEMod default) is unacceptable for new supermarket and cold storage systems as of 1 January 2019 and 2023, respectively. Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater.

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APPENDIX 5.2:

CALEEMOD CONSTRUCTION (MITIGATED) EMISSIONS MODEL OUTPUTS

14556-Moreno Valley Towne Center (Mitigated) Detailed Report

Table of Contents

1. Basic Project Information

1.1. Basic Project Information

Data Field	Value
Project Name	14556-Moreno Valley Towne Center (Mitigated)
Construction Start Date	11/5/2025
Lead Agency	—
Land Use Scale	Plan/community
Analysis Level for Defaults	County
Windspeed (m/s)	2.50
Precipitation (days)	24.0
Location	33.920986394588446, -117.193682312174
County	Riverside-South Coast
City	Moreno Valley
Air District	South Coast AQMD
Air Basin	South Coast
TAZ	5592
EDFZ	11
Electric Utility	Moreno Valley Utility
Gas Utility	Southern California Gas
App Version	2022.1.1.29

1.2. Land Use Types

Land Use Subtype	Size	Unit	Lot Acreage	Building Area (sq ft)	Landscape Area (sq ft)	Special Landscape Area (sq ft)	Population	Description
Single Family Housing	800	Dwelling Unit	33.1	1,440,000	9,370,286	—	2,584	—
City Park	4.80	Acre	4.80	0.00	209,088	0.00	—	—

Hotel	106	Room	1.34	58,409	0.00	—	—	—
General Office Building	15.0	1000sqft	0.34	15,000	0.00	—	—	—
Library	30.0	1000sqft	0.69	30,000	0.00	—	—	—
High Turnover (Sit Down Restaurant)	16.7	1000sqft	0.38	16,660	0.00	—	—	—
Fast Food Restaurant with Drive Thru	3.50	1000sqft	0.08	3,500	0.00	—	—	—
Regional Shopping Center	60.9	1000sqft	1.40	60,890	0.00	—	—	—
Supermarket	45.0	1000sqft	1.03	45,000	0.00	—	—	—
Parking Lot	930	Space	3.07	0.00	0.00	—	—	—
Other Asphalt Surfaces	434	1000sqft	9.97	0.00	0.00	—	—	—

1.3. User-Selected Emission Reduction Measures by Emissions Sector

No measures selected

2. Emissions Summary

2.1. Construction Emissions Compared Against Thresholds

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

Un/Mit.	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	59.3	58.8	13.6	69.1	0.09	0.36	6.75	7.01	0.34	1.62	1.87	—	14,890	14,890	0.55	0.73	26.9	15,149
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	59.0	58.7	16.8	88.4	0.14	0.44	8.96	9.26	0.42	3.82	4.10	—	20,122	20,122	0.63	0.85	0.73	20,391

Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	9.89	9.75	8.02	37.3	0.05	0.19	4.07	4.24	0.19	0.98	1.15	—	9,052	9,052	0.25	0.49	7.31	9,212
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.80	1.78	1.46	6.80	0.01	0.04	0.74	0.77	0.03	0.18	0.21	—	1,499	1,499	0.04	0.08	1.21	1,525

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	3.89	3.46	13.6	69.1	0.09	0.36	5.98	6.34	0.34	1.44	1.78	—	14,890	14,890	0.55	0.73	26.9	15,149
2027	2.84	2.47	10.8	55.3	0.07	0.25	5.78	6.03	0.24	1.39	1.63	—	13,018	13,018	0.33	0.69	23.7	13,255
2028	59.3	58.8	11.9	59.7	0.07	0.26	6.75	7.01	0.25	1.62	1.87	—	14,020	14,020	0.32	0.73	24.2	14,269
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.56	1.49	8.27	68.5	0.12	0.28	8.96	9.24	0.28	3.82	4.10	—	13,219	13,219	0.53	0.19	0.09	13,290
2026	3.80	3.37	16.8	88.4	0.14	0.44	8.82	9.26	0.42	2.47	2.89	—	20,122	20,122	0.63	0.85	0.73	20,391
2027	2.76	2.38	11.1	49.3	0.07	0.25	5.78	6.03	0.24	1.39	1.63	—	12,616	12,616	0.33	0.69	0.62	12,830
2028	59.0	58.7	12.2	53.0	0.07	0.26	6.75	7.01	0.25	1.62	1.87	—	13,547	13,547	0.33	0.73	0.63	13,772
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.09	0.09	0.51	4.01	0.01	0.02	0.47	0.49	0.02	0.20	0.21	—	776	776	0.03	0.01	0.09	780
2026	1.93	1.70	7.83	37.3	0.05	0.19	3.69	3.89	0.19	0.94	1.13	—	8,666	8,666	0.25	0.43	6.48	8,805
2027	1.97	1.70	8.02	35.9	0.05	0.18	4.07	4.24	0.17	0.98	1.15	—	9,052	9,052	0.24	0.49	7.31	9,212
2028	9.89	9.75	6.81	30.5	0.04	0.15	3.61	3.75	0.14	0.87	1.01	—	7,779	7,779	0.19	0.42	5.79	7,917
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

2025	0.02	0.02	0.09	0.73	< 0.005	< 0.005	0.09	0.09	< 0.005	0.04	0.04	—	128	128	0.01	< 0.005	0.01	129
2026	0.35	0.31	1.43	6.80	0.01	0.04	0.67	0.71	0.03	0.17	0.21	—	1,435	1,435	0.04	0.07	1.07	1,458
2027	0.36	0.31	1.46	6.55	0.01	0.03	0.74	0.77	0.03	0.18	0.21	—	1,499	1,499	0.04	0.08	1.21	1,525
2028	1.80	1.78	1.24	5.57	0.01	0.03	0.66	0.69	0.03	0.16	0.18	—	1,288	1,288	0.03	0.07	0.96	1,311

3. Construction Emissions Details

3.1. Site Preparation (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.52	0.52	2.71	30.0	0.05	0.10	—	0.10	0.10	—	0.10	—	5,528	5,528	0.22	0.04	—	5,547
Dust From Material Movement	—	—	—	—	—	—	5.66	5.66	—	2.69	2.69	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.12	1.31	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	242	242	0.01	< 0.005	—	243

Dust From Material Movement	—	—	—	—	—	—	0.25	0.25	—	0.12	0.12	—	—	—	—	—	—	—
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	0.02	0.24	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	40.1	40.1	< 0.005	< 0.005	—	40.3
Dust From Material Movement	—	—	—	—	—	—	0.05	0.05	—	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	0.08	0.07	0.08	1.02	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	227	227	0.01	0.01	0.02	230
Vendor	< 0.005	< 0.005	0.11	0.03	< 0.005	< 0.005	0.03	0.03	< 0.005	0.01	0.01	—	91.8	91.8	< 0.005	0.01	0.01	96.1
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	10.1	10.1	< 0.005	< 0.005	0.02	10.2
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.02	4.02	< 0.005	< 0.005	< 0.005	4.21
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	1.67	1.67	< 0.005	< 0.005	< 0.005	1.69

Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.67	0.67	< 0.005	< 0.005	< 0.005	0.70
Hauling	0.00	0.00	0.00	0.00	0.00	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 (2025) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.84	0.80	4.82	36.2	0.06	0.17	—	0.17	0.17	—	0.17	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.06	0.06	0.34	2.55	< 0.005	0.01	—	0.01	0.01	—	0.01	—	473	473	0.02	< 0.005	—	475
Dust From Material Movement	—	—	—	—	—	—	0.19	0.19	—	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

Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.01	0.01	0.06	0.47	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	78.3	78.3	< 0.005	< 0.005	—	78.6
Dust From Material Movement	—	—	—	—	—	—	0.03	0.03	—	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
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.10	1.17	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	259	259	0.01	0.01	0.03	262
Vendor	0.02	0.01	0.46	0.14	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	398	398	0.01	0.06	0.03	416
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	18.5	18.5	< 0.005	< 0.005	0.03	18.7
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	28.0	28.0	< 0.005	< 0.005	0.03	29.3
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.06	3.06	< 0.005	< 0.005	0.01	3.10
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	4.64	4.64	< 0.005	< 0.005	0.01	4.86
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.5. Grading (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	0.83	0.80	4.80	36.2	0.06	0.17	—	0.17	0.17	—	0.17	—	6,715	6,715	0.27	0.05	—	6,738
Dust From Material Movement	—	—	—	—	—	—	2.67	2.67	—	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
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.13	0.13	0.77	5.81	0.01	0.03	—	0.03	0.03	—	0.03	—	1,078	1,078	0.04	0.01	—	1,081
Dust From Material Movement	—	—	—	—	—	—	0.43	0.43	—	0.16	0.16	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.02	0.14	1.06	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	178	178	0.01	< 0.005	—	179

Dust From Material Movement	—	—	—	—	—	—	0.08	0.08	—	0.03	0.03	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.09	0.08	0.09	1.09	0.00	0.00	0.26	0.26	0.00	0.06	0.06	—	254	254	< 0.005	0.01	0.02	257
Vendor	0.02	0.01	0.44	0.13	< 0.005	0.01	0.11	0.12	0.01	0.03	0.04	—	392	392	0.01	0.06	0.03	410
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.01	0.01	0.02	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	41.2	41.2	< 0.005	< 0.005	0.06	41.8
Vendor	< 0.005	< 0.005	0.07	0.02	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	62.8	62.8	< 0.005	0.01	0.07	65.8
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.82	6.82	< 0.005	< 0.005	0.01	6.92
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	10.4	10.4	< 0.005	< 0.005	0.01	10.9
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.7. Building Construction (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	1.05	0.93	6.25	29.6	0.05	0.21	—	0.21	0.20	—	0.20	—	4,817	4,817	0.20	0.04	—	4,833
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	1.05	0.93	6.25	29.6	0.05	0.21	—	0.21	0.20	—	0.20	—	4,817	4,817	0.20	0.04	—	4,833
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.58	0.52	3.47	16.4	0.03	0.12	—	0.12	0.11	—	0.11	—	2,677	2,677	0.11	0.02	—	2,686
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.09	0.63	3.00	< 0.005	0.02	—	0.02	0.02	—	0.02	—	443	443	0.02	< 0.005	—	445
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.75	1.58	1.46	26.7	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	5,134	5,134	0.22	0.18	17.4	5,210
Vendor	0.15	0.07	3.44	1.07	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,221	3,221	0.07	0.50	8.81	3,380
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.67	1.49	1.63	20.3	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	4,721	4,721	0.07	0.18	0.45	4,778
Vendor	0.14	0.06	3.59	1.10	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,223	3,223	0.07	0.50	0.23	3,374
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.92	0.82	0.99	11.8	0.00	0.00	2.66	2.66	0.00	0.62	0.62	—	2,657	2,657	0.04	0.10	4.18	2,693
Vendor	0.08	0.04	2.00	0.60	0.01	0.03	0.50	0.53	0.03	0.14	0.17	—	1,791	1,791	0.04	0.28	2.10	1,876
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.17	0.15	0.18	2.15	0.00	0.00	0.49	0.49	0.00	0.11	0.11	—	440	440	0.01	0.02	0.69	446
Vendor	0.01	0.01	0.37	0.11	< 0.005	< 0.005	0.09	0.10	< 0.005	0.03	0.03	—	296	296	0.01	0.05	0.35	311
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.9. Building Construction (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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	1.02	0.91	6.17	29.6	0.05	0.20	—	0.20	0.19	—	0.19	—	4,817	4,817	0.20	0.04	—	4,833

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	1.02	0.91	6.17	29.6	0.05	0.20	—	0.20	0.19	—	0.19	—	4,817	4,817	0.20	0.04	—	4,833
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	0.73	0.65	4.41	21.1	0.03	0.14	—	0.14	0.14	—	0.14	—	3,440	3,440	0.14	0.03	—	3,452
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	0.13	0.12	0.80	3.85	0.01	0.03	—	0.03	0.02	—	0.02	—	570	570	0.02	< 0.005	—	572
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.68	1.49	1.29	24.7	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	5,039	5,039	0.06	0.18	15.7	5,109
Vendor	0.14	0.07	3.31	1.04	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,162	3,162	0.07	0.47	8.05	3,313
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	1.60	1.41	1.46	18.7	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	4,635	4,635	0.07	0.18	0.41	4,689
Vendor	0.14	0.06	3.46	1.07	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,164	3,164	0.07	0.47	0.21	3,308
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.14	1.01	1.15	14.0	0.00	0.00	3.42	3.42	0.00	0.80	0.80	—	3,352	3,352	0.05	0.13	4.82	3,396
Vendor	0.10	0.05	2.46	0.75	0.02	0.03	0.65	0.68	0.03	0.18	0.21	—	2,259	2,259	0.05	0.34	2.48	2,364
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.21	0.18	0.21	2.56	0.00	0.00	0.62	0.62	0.00	0.15	0.15	—	555	555	0.01	0.02	0.80	562
Vendor	0.02	0.01	0.45	0.14	< 0.005	0.01	0.12	0.12	0.01	0.03	0.04	—	374	374	0.01	0.06	0.41	391
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.11. Building Construction (2028) - 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	1.00	0.89	6.09	29.5	0.05	0.19	—	0.19	0.18	—	0.18	—	4,818	4,818	0.20	0.04	—	4,834
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	1.00	0.89	6.09	29.5	0.05	0.19	—	0.19	0.18	—	0.18	—	4,818	4,818	0.20	0.04	—	4,834
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	0.61	0.54	3.71	18.0	0.03	0.11	—	0.11	0.11	—	0.11	—	2,932	2,932	0.12	0.02	—	2,942
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.11	0.10	0.68	3.28	0.01	0.02	—	0.02	0.02	—	0.02	—	485	485	0.02	< 0.005	—	487
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.62	1.44	1.28	23.0	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	4,945	4,945	0.06	0.18	14.0	5,013
Vendor	0.14	0.07	3.15	1.01	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,090	3,090	0.05	0.47	7.33	3,240
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	1.40	1.36	1.45	17.4	0.00	0.00	4.87	4.87	0.00	1.14	1.14	—	4,549	4,549	0.07	0.18	0.36	4,603
Vendor	0.14	0.06	3.29	1.04	0.02	0.05	0.92	0.96	0.05	0.25	0.30	—	3,093	3,093	0.05	0.47	0.19	3,235
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.84	0.82	0.88	11.2	0.00	0.00	2.92	2.92	0.00	0.68	0.68	—	2,803	2,803	0.04	0.11	3.69	2,840
Vendor	0.09	0.04	2.02	0.63	0.01	0.03	0.55	0.58	0.03	0.15	0.18	—	1,881	1,881	0.03	0.29	1.92	1,970
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.15	0.15	0.16	2.04	0.00	0.00	0.53	0.53	0.00	0.12	0.12	—	464	464	0.01	0.02	0.61	470
Vendor	0.02	0.01	0.37	0.11	< 0.005	0.01	0.10	0.11	0.01	0.03	0.03	—	312	312	0.01	0.05	0.32	326
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.13. Paving (2026) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	0.38	2.35	10.6	0.01	0.10	—	0.10	0.09	—	0.09	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.44	0.44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.43	0.38	2.35	10.6	0.01	0.10	—	0.10	0.09	—	0.09	—	1,511	1,511	0.06	0.01	—	1,516
Paving	0.44	0.44	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.09	0.08	0.50	2.24	< 0.005	0.02	—	0.02	0.02	—	0.02	—	319	319	0.01	< 0.005	—	320
Paving	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	0.01	0.09	0.41	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	52.8	52.8	< 0.005	< 0.005	—	52.9
Paving	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.06	1.08	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	207	207	0.01	0.01	0.70	210
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.82	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	190	190	< 0.005	0.01	0.02	193
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.01	0.02	0.18	0.00	0.00	0.04	0.04	0.00	0.01	0.01	—	40.6	40.6	< 0.005	< 0.005	0.06	41.2
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.03	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	6.73	6.73	< 0.005	< 0.005	0.01	6.82
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

3.15. Architectural Coating (2028) - Unmitigated

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

Location	TOG	ROG	NOx	CO	SO2	PM10E	PM10D	PM10T	PM2.5E	PM2.5D	PM2.5T	BCO2	NBCO2	CO2T	CH4	N2O	R	CO2e
Onsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.08	1.49	< 0.005	0.02	—	0.02	0.02	—	0.02	—	178	178	0.01	< 0.005	—	179
Architectural Coatings	56.0	56.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.17	0.14	1.08	1.49	< 0.005	0.02	—	0.02	0.02	—	0.02	—	178	178	0.01	< 0.005	—	179

Architectural Coating	56.0	56.0	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.03	0.02	0.16	0.22	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	26.3	26.3	< 0.005	< 0.005	—	26.4
Architectural Coatings	8.29	8.29	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	—	4.36	4.36	< 0.005	< 0.005	—	4.38
Architectural Coatings	1.51	1.51	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.32	0.29	0.26	4.61	0.00	0.00	0.97	0.97	0.00	0.23	0.23	—	989	989	0.01	0.04	2.81	1,003
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.28	0.27	0.29	3.49	0.00	0.00	0.97	0.97	0.00	0.23	0.23	—	910	910	0.01	0.04	0.07	921
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.04	0.04	0.04	0.54	0.00	0.00	0.14	0.14	0.00	0.03	0.03	—	136	136	< 0.005	0.01	0.18	138
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.10	0.00	0.00	0.03	0.03	0.00	0.01	0.01	—	22.6	22.6	< 0.005	< 0.005	0.03	22.9
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	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

4. Operations Emissions Details

4.10. Soil Carbon Accumulation By Vegetation Type

4.10.1. Soil Carbon Accumulation By Vegetation Type - Unmitigated

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

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

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

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

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

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

4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

5. Activity Data

5.1. Construction Schedule

Phase Name	Phase Type	Start Date	End Date	Days Per Week	Work Days per Phase	Phase Description
Site Preparation	Site Preparation	11/5/2025	11/26/2025	5.00	16.0	—
Grading	Grading	11/26/2025	03/23/2026	5.00	84.0	—
Building Construction	Building Construction	03/23/2026	11/6/2028	5.00	686	—
Paving	Paving	07/23/2026	11/6/2026	5.00	77.0	—
Architectural Coating	Architectural Coating	08/23/2028	11/6/2028	5.00	54.0	—

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	Rubber Tired Dozers	Diesel	Tier 4 Final	3.00	8.00	367	0.40
Site Preparation	Crawler Tractors	Diesel	Tier 4 Final	4.00	8.00	87.0	0.43
Grading	Excavators	Diesel	Average	2.00	8.00	36.0	0.38
Grading	Graders	Diesel	Tier 4 Final	1.00	8.00	148	0.41
Grading	Rubber Tired Dozers	Diesel	Tier 4 Final	1.00	8.00	367	0.40
Grading	Scrapers	Diesel	Tier 4 Final	2.00	8.00	423	0.48
Grading	Crawler Tractors	Diesel	Tier 4 Final	2.00	8.00	87.0	0.43
Building Construction	Cranes	Diesel	Tier 4 Final	2.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Tier 4 Final	5.00	8.00	82.0	0.20
Building Construction	Generator Sets	Diesel	Average	2.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Tier 4 Final	5.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Average	2.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Tier 4 Final	2.00	8.00	81.0	0.42
Paving	Paving Equipment	Diesel	Tier 4 Final	2.00	8.00	89.0	0.36
Paving	Rollers	Diesel	Average	2.00	8.00	36.0	0.38
Architectural Coating	Air Compressors	Diesel	Average	1.00	8.00	37.0	0.48

5.3. Construction Vehicles

5.3.1. Unmitigated

Phase Name	Trip Type	One-Way Trips per Day	Miles per Trip	Vehicle Mix
Site Preparation	—	—	—	—
Site Preparation	Worker	17.5	18.5	LDA,LDT1,LDT2
Site Preparation	Vendor	3.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	20.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	13.0	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	372	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	107	10.2	HHDT,MHDT
Building Construction	Hauling	0.00	20.0	HHDT
Building Construction	Onsite truck	—	—	HHDT
Paving	—	—	—	—
Paving	Worker	15.0	18.5	LDA,LDT1,LDT2
Paving	Vendor	—	10.2	HHDT,MHDT
Paving	Hauling	0.00	20.0	HHDT
Paving	Onsite truck	—	—	HHDT
Architectural Coating	—	—	—	—
Architectural Coating	Worker	74.5	18.5	LDA,LDT1,LDT2
Architectural Coating	Vendor	—	10.2	HHDT,MHDT
Architectural Coating	Hauling	0.00	20.0	HHDT

Architectural Coating	Onsite truck	—	—	HHDT

5.4. Vehicles

5.4.1. Construction Vehicle Control Strategies

Non-applicable. No control strategies activated by user.

5.5. Architectural Coatings

Phase Name	Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
Architectural Coating	2,916,000	972,000	344,189	114,730	34,081

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	—	—	320	0.00	—
Grading	—	—	1,680	0.00	—
Paving	0.00	0.00	0.00	0.00	21.9

5.6.2. Construction Earthmoving Control Strategies

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

5.7. Construction Paving

Land Use	Area Paved (acres)	% Asphalt
Single Family Housing	8.82	0%
City Park	0.00	0%

Hotel	0.00	0%
General Office Building	0.00	0%
Library	0.00	0%
High Turnover (Sit Down Restaurant)	0.00	0%
Fast Food Restaurant with Drive Thru	0.00	0%
Regional Shopping Center	0.00	0%
Supermarket	0.00	0%
Parking Lot	3.07	100%
Other Asphalt Surfaces	9.97	100%

5.8. Construction Electricity Consumption and Emissions Factors

kWh per Year and Emission Factor (lb/MWh)

Year	kWh per Year	CO2	CH4	N2O
2025	0.00	453	0.03	< 0.005
2026	0.00	453	0.03	< 0.005
2027	0.00	453	0.03	< 0.005
2028	0.00	453	0.03	< 0.005

5.18. Vegetation

5.18.1. Land Use Change

5.18.1.1. Unmitigated

Vegetation Land Use Type	Vegetation Soil Type	Initial Acres	Final Acres

5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres

5.18.2. Sequestration

5.18.2.1. Unmitigated

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

6. Climate Risk Detailed Report

6.1. Climate Risk Summary

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

Climate Hazard	Result for Project Location	Unit
Temperature and Extreme Heat	28.0	annual days of extreme heat
Extreme Precipitation	2.05	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	7.76	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	3	0	0	N/A

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

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

6.3. Adjusted Climate Risk Scores

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

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

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	99.1
AQ-PM	56.1
AQ-DPM	64.1
Drinking Water	10.2
Lead Risk Housing	19.2
Pesticides	62.3
Toxic Releases	54.3
Traffic	43.8
Effect Indicators	—
CleanUp Sites	17.1
Groundwater	0.00
Haz Waste Facilities/Generators	40.9
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	72.0
Cardio-vascular	93.5
Low Birth Weights	68.4
Socioeconomic Factor Indicators	—
Education	49.4
Housing	62.4
Linguistic	56.3

Poverty	60.6
Unemployment	58.4

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	46.40061594
Employed	68.38188118
Median HI	54.09983318
Education	—
Bachelor's or higher	45.52803798
High school enrollment	100
Preschool enrollment	16.32234056
Transportation	—
Auto Access	70.20402926
Active commuting	11.88245862
Social	—
2-parent households	45.51520595
Voting	16.7842936
Neighborhood	—
Alcohol availability	82.6767612
Park access	53.93301681
Retail density	39.66380085
Supermarket access	38.16245348
Tree canopy	0.898242012
Housing	—
Homeownership	49.23649429

Housing habitability	68.70268189
Low-inc homeowner severe housing cost burden	15.42409855
Low-inc renter severe housing cost burden	85.268831
Uncrowded housing	85.268831
Health Outcomes	—
Insured adults	21.95560118
Arthritis	90.5
Asthma ER Admissions	30.2
High Blood Pressure	79.9
Cancer (excluding skin)	85.3
Asthma	49.0
Coronary Heart Disease	94.7
Chronic Obstructive Pulmonary Disease	86.1
Diagnosed Diabetes	80.8
Life Expectancy at Birth	17.2
Cognitively Disabled	33.5
Physically Disabled	52.4
Heart Attack ER Admissions	3.3
Mental Health Not Good	51.7
Chronic Kidney Disease	90.3
Obesity	37.0
Pedestrian Injuries	19.6
Physical Health Not Good	69.2
Stroke	88.3
Health Risk Behaviors	—
Binge Drinking	20.5
Current Smoker	45.9
No Leisure Time for Physical Activity	52.7

Climate Change Exposures	—
Wildfire Risk	18.6
SLR Inundation Area	0.0
Children	35.2
Elderly	94.0
English Speaking	77.1
Foreign-born	60.7
Outdoor Workers	46.4
Climate Change Adaptive Capacity	—
Impervious Surface Cover	84.1
Traffic Density	36.6
Traffic Access	23.0
Other Indices	—
Hardship	35.1
Other Decision Support	—
2016 Voting	26.1

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	63.0
Healthy Places Index Score for Project Location (b)	42.0
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	No
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Land Use	Land uses modeled consistent with information provided in Traffic and on Site Plan
Construction: Construction Phases	Taken from latest provided construction schedule
Construction: Off-Road Equipment	Construction equipment based on consultation with the Project Team Tier 4 Final applied to equipment more than 50 HP to satisfy MM AQ-1
Construction: Dust From Material Movement	Analysis conservatively assumes that up to 20 acres can be disturbed per day As such, the “Total Acres Graded” field in CalEEMod has been revised to 320 acres for site preparation (20 acres disturbed per day x 16 working days) and 1680 acres for grading activities (20 acres disturbed per day x 84 working days)
Construction: Trips and VMT	Vendor Trips adjusted based on CalEEMod defaults for Building Construction and number of days for Site Preparation, Grading, and Building Construction
Construction: Architectural Coatings	Super-Compliant Low VOC paints used (10 g/l) satisfy MM AQ-1
Operations: Vehicle Data	Trip characteristics based on information provided in the Traffic analysis Pass-by and internal capture was accounted for in the "Pass By Trip" category.
Operations: Hearths	SCAQMD Rule 445
Characteristics: Project Details	—
Operations: Architectural Coatings	SCAQMD Rule 1113
Operations: Refrigerants	As of 1 January 2022, new commercial refrigeration equipment may not use refrigerants with a GWP of 150 or greater. Further, R-404A (the CalEEMod default) is unacceptable for new supermarket and cold storage systems as of 1 January 2019 and 2023, respectively. Beginning 1 January 2025, all new air conditioning equipment may not use refrigerants with a GWP of 750 or greater.

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