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# **Seneca Road**

## **AIR QUALITY IMPACT ANALYSIS**

### **CITY OF ADELANTO**

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MARCH 20, 2024

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## **LIST OF ABBREVIATED TERMS**

(1)	Reference
$\mu\text{g}/\text{m}^3$	Microgram per Cubic Meter
AQIA	Air Quality Impact Analysis
AQMD	Air Quality Management District
AQMP	Air Quality Management Plan
BACM	Best Available Control Measures
CAA	Federal Clean Air Act
CAAQS	California Ambient Air Quality Standards
CalEEMod	California Emissions Estimator Model
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCR	California Code of Regulations
CEQA	California Environmental Quality Act
CO	Carbon Monoxide
EPA	Environmental Protection Agency
MDAQMD	Mojave Desert Air Quality Management District
MDAB	Mojave Desert Air Basin
NAAQS	National Ambient Air Quality Standards
$\text{NO}_2$	Nitrogen Dioxide
$\text{NO}_x$	Oxides of Nitrogen
Pb	Lead
$\text{PM}_{10}$	Particulate Matter 10 microns in diameter or less
$\text{PM}_{2.5}$	Particulate Matter 2.5 microns in diameter or less
PPM	Parts Per Million
Project	Seneca Road
ROG	Reactive Organic Gases
SCAQMD	South Coast Air Quality Management District
SIPs	State Implementation Plans
TAC	Toxic Air Contaminant

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## EXECUTIVE SUMMARY

### ES.1 SUMMARY OF FINDINGS

The results of this *Seneca Road Air Quality Impact Analysis* 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 (1). Table ES-1 shows the findings of significance for each potential air quality impact under CEQA before and after any required mitigation measures (MM) described below.

**TABLE ES-1: SUMMARY OF CEQA SIGNIFICANCE FINDINGS**

Analysis	Report Section	Significance Findings	
		Unmitigated	Mitigated
Regional Construction Emissions	3.4	<i>Less Than Significant</i>	<i>n/a</i>
Regional Operational Emissions	3.5	<i>Less Than Significant</i>	<i>n/a</i>
CO “Hot Spot” Analysis	3.6	<i>Less Than Significant</i>	<i>n/a</i>
Air Quality Management Plan	3.7	<i>Less Than Significant</i>	<i>n/a</i>
Sensitive Receptors	3.8	<i>Less Than Significant</i>	<i>n/a</i>
Odors	3.9	<i>Less Than Significant</i>	<i>n/a</i>
Cumulative Impacts	3.10	<i>Less Than Significant</i>	<i>n/a</i>

### ES.2 STANDARD REGULATORY REQUIREMENTS/BEST AVAILABLE CONTROL MEASURES

MDAQMD Rules that are currently applicable during construction activity for this Project include but are not limited to: Rule 403 (Fugitive Dust) (2); Rule 1113 (Architectural Coatings) (3). It should be noted that these Rules represent Best Available Control Measures (BACMs) and are not mitigation since they are regulatory requirements.

#### **RULE 403**

The following measures shall be incorporated into Project plans and specifications as implementation of Rule 403 (2).

- Use periodic watering for short-term stabilization of Disturbed Surface Area to minimize visible fugitive dust emissions. For purposes of this Rule, use of a water truck to maintain moist disturbed surfaces and actively spread water during visible dusting episodes shall be considered sufficient

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to maintain compliance. Take actions sufficient to prevent project-related Trackout onto paved surfaces.

#### **RULE 1113**

The following measures shall be incorporated into Project plans and specifications as implementation of MDAQMD Rule 1113 (3).

- Only “Low-Volatile Organic Compounds (VOC)” paints consistent with MDAQMD Rule 1113 shall be used.

#### **ES.3 CONSTRUCTION-SOURCE MITIGATION MEASURES**

Project construction emissions would not exceed applicable MDAQMD regional thresholds of significance. Therefore, Project construction-source emissions would be considered less than significant on a project-specific and cumulative basis.

#### **ES.4 OPERATIONAL-SOURCE MITIGATION MEASURES**

Project operational emissions would not exceed applicable MDAQMD regional or local thresholds of significance. Therefore, Project operational-source emissions would be considered less than significant on a project-specific and cumulative basis.

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# **1 INTRODUCTION**

This report presents the results of the air quality impact analysis (AQIA) prepared by Urban Crossroads, Inc., for the proposed Seneca Road (“Project”). The purpose of this AQIA is to evaluate the potential air quality impacts associated with construction and operation of the proposed Project and identify measures, as necessary, to reduce emissions in comparison to thresholds established by the Mojave Desert Air Quality Management District (MDAQMD).

## **1.1 SITE LOCATION**

The proposed Seneca Road Project is located at the southeast corner of Pearmain Street and Seneca Road (APN 3103-511-08) in the City of Adelanto as shown on Exhibit 1-A.

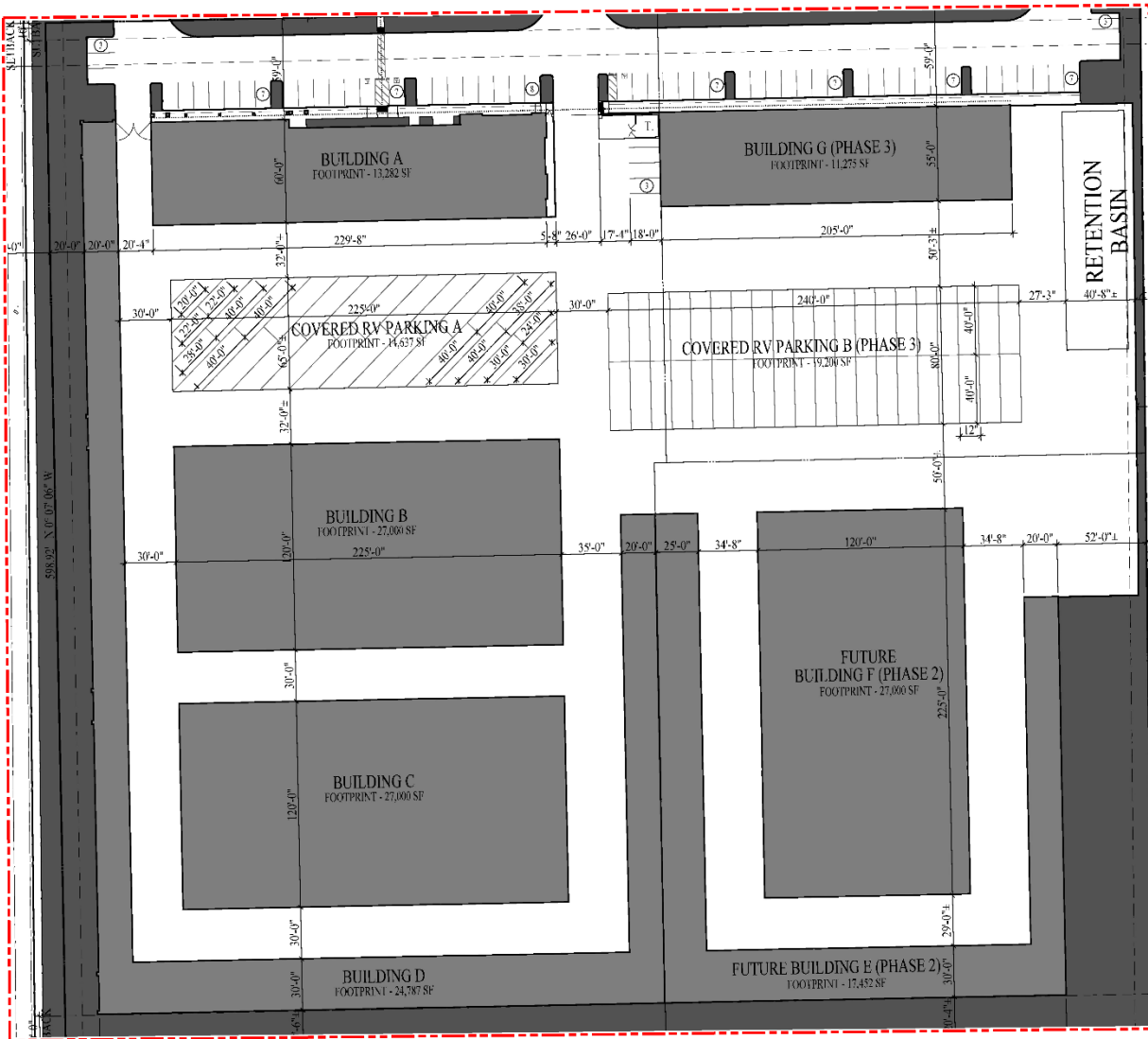
## **1.2 PROJECT DESCRIPTION**

The proposed Project is to consist of a 4,700-sf strip retail plaza, a 4,700-sf office, a 139,000-sf self-storage building, and 68 RV parking spaces on approximately 8.75 acres, as shown in Exhibit 1-B. The Project is anticipated to have an Opening Year of 2026.

## EXHIBIT 1-A: LOCATION MAP



## EXHIBIT 1-B: SITE PLAN



### LEGEND:

  Site Boundary

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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 MOJAVE DESERT AIR BASIN

The Project site is located in the portion of the County of San Bernardino, California, that is part of the Mojave Desert Air Basin (MDAB) and is under the jurisdiction of the MDAQMD. The air quality assessment for the proposed Project includes estimating emissions associated with short-term construction and long-term operation of the proposed Project. A number of air quality modeling tools are available to assess the air quality impacts of projects. In addition, certain air districts, such as the MDAQMD, have created guidelines and requirements to conduct air quality analyses. The MDAQMD's current guidelines, included in its *California Environmental Quality Act and Federal Conformity Guidelines* (August 2011), were adhered to in the assessment of air quality impacts for the proposed Project.

### 2.2 REGIONAL CLIMATE

Air quality in the Project area is not only affected by various emissions sources (mobile, industry, etc.) but is also affected by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall.

The MDAB is an assemblage of mountain ranges interspersed with long broad valleys that often contain dry lakes. Many of the lower mountains that dot the vast terrain rise from 1,000 to 4,000 ft above the valley floor. Prevailing winds in the MDAB are out of the west and southwest. These prevailing winds are due to the proximity of the MDAB to coastal and central regions and the blocking nature of the Sierra Nevada Mountains to the north; air masses pushed onshore in Southern California by differential heating are channeled through the MDAB. The MDAB is separated from the Southern California coastal and central California valley regions by mountains (highest elevation is approximately 10,000 ft), whose passes form the main channels for these air masses. The Mojave Desert is bordered on the southwest by the San Bernardino Mountains, separated from the San Gabriels by the Cajon Pass (4,200 ft). A lesser pass lies between the San Bernardino Mountains and the Little San Bernardino Mountains in the Morongo Valley. The Palo Verde Valley portion of the Mojave Desert lies in the low desert, at the eastern end of a series of valleys (notably the Coachella Valley), whose primary channel is the San Gorgonio Pass (2,300 ft) between the San Bernardino and San Jacinto Mountains.

During the summer, the MDAB is generally influenced by a Pacific subtropical high cell that sits off the coast, inhibiting cloud formation and encouraging daytime solar heating. The MDAB is rarely influenced by cold air masses moving south from Canada and Alaska, as these frontal systems are weak and diffuse by the time they reach the desert. Most desert moisture arrives from infrequent warm, moist, and unstable air masses from the south. The MDAB averages between three and seven inches of precipitation per year (from 16 to 30 days with at least 0.01 inch of precipitation). The MDAB is classified as a dry-hot desert climate, with portions classified

as dry-very hot desert, to indicate that at least three months have maximum average temperatures over 100.4° F.

Snow is common above 5,000 ft in elevation, resulting in moderate snowpack and limited spring runoff. Below 5,000 ft, any precipitation normally occurs as rainfall. Pacific storm fronts normally move into the area from the west, driven by prevailing winds from the west and southwest. During late summer, moist high-pressure systems from the Pacific collide with rising heated air from desert areas, resulting in brief, high-intensity thunderstorms that can cause high winds and localized flash flooding.

## 2.3 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 (4):

**TABLE 2-1: CRITERIA POLLUTANTS**

Criteria Pollutant	Description	Sources	Health Effects
Carbon Monoxide (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 <sub>3</sub> ), motor vehicles operating at slow speeds are the primary source of CO in the MDAB. 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 supply to the heart. Inhaled CO has no direct toxic effect on the lungs but exerts its effect on tissues by interfering with oxygen transport and competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, conditions with an increased demand for oxygen 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

Criteria Pollutant	Description	Sources	Health Effects
			(oxygen deficiency) as seen at high altitudes.
Sulfur Dioxide (SO <sub>2</sub> )	SO <sub>2</sub> is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant 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 <sub>2</sub> oxidizes in the atmosphere, it forms sulfates (SO <sub>4</sub> ). Collectively, these pollutants are referred to as sulfur oxides (SO <sub>x</sub> )	Coal or oil burning power plants and industries, refineries, diesel engines	<p>A few minutes of exposure to low levels of SO<sub>2</sub> can result in airway constriction in some 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<sub>2</sub>. In contrast, healthy individuals do not exhibit similar acute responses even after exposure to higher concentrations of SO<sub>2</sub>.</p> <p>Animal studies suggest that despite SO<sub>2</sub> 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.</p> <p>Some population-based studies indicate that the mortality and morbidity effects associated with fine particles show a similar association with ambient SO<sub>2</sub> levels. In these studies, efforts to separate the effects of SO<sub>2</sub> 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.</p>

Criteria Pollutant	Description	Sources	Health Effects
NO <sub>x</sub>	<p>NO<sub>x</sub> consist of nitric oxide (NO), nitrogen dioxide (NO<sub>2</sub>) and nitrous oxide (N<sub>2</sub>O) and are formed when nitrogen (N<sub>2</sub>) combines with oxygen (O<sub>2</sub>). Their lifespan in the atmosphere ranges from one to seven days for nitric oxide and nitrogen dioxide, to 170 years for nitrous oxide. Nitrogen oxides are typically created during combustion processes and are major contributors to smog formation and acid deposition. NO<sub>2</sub> 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<sub>2</sub> is the most abundant in the atmosphere. As ambient concentrations of NO<sub>2</sub> are related to traffic density, commuters in heavy traffic may be exposed to higher concentrations of NO<sub>2</sub> than those indicated by regional monitoring stations.</p>	Any source that burns fuel such as automobiles, trucks, heavy construction equipment, farming equipment and residential heating.	<p>Population-based studies suggest that an increase in acute respiratory illness, including infections and respiratory symptoms in children (not infants) is associated with long-term exposure to NO<sub>2</sub> at levels found in homes with gas stoves, which can result in concentrations that 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<sub>2</sub> 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.</p> <p>In animals, exposure to levels of NO<sub>2</sub> 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<sub>3</sub> exposure increases when animals are exposed to a combination of O<sub>3</sub> and NO<sub>2</sub>.</p>
O <sub>3</sub>	Ozone (O <sub>3</sub> ) is a highly reactive and unstable gas that is formed when volatile organic compounds (VOCs) and NO <sub>x</sub> , both byproducts of internal combustion engine exhaust, undergo slow photochemical reactions in the presence of sunlight. O <sub>3</sub>	Formed when reactive organic gases (ROG) and nitrogen oxides react in the presence of sunlight. ROG sources	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 <sub>3</sub> effects. Short-

Criteria Pollutant	Description	Sources	Health Effects
	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.	include any source that burns fuels, (e.g., gasoline, natural gas, wood, or oil) as well as the use of solvents, petroleum processing and storage, and pesticides.	<p>term exposure (lasting for a few hours) to O<sub>3</sub> at levels typically observed in Southern California can result in breathing pattern changes, reduction of breathing capacity, increased susceptibility to infections, inflammation of the lung tissue, and some immunological changes. Elevated O<sub>3</sub> levels are associated with increased school absences. In recent years, a correlation between elevated ambient O<sub>3</sub> 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<sub>3</sub> levels.</p> <p>O<sub>3</sub> 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<sub>3</sub> may be more toxic than exposure to O<sub>3</sub> 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.</p>
Particulate Matter	PM <sub>10</sub> (Particulate Matter less than 10 microns): A major air pollutant consisting of tiny solid or liquid particles of soot, dust, smoke, fumes, and aerosols. Particulate matter pollution is a	Sources of PM <sub>10</sub> include road dust, windblown dust and construction. Also formed from other pollutants (acid	A consistent correlation between elevated ambient fine particulate matter (PM <sub>10</sub> and PM <sub>2.5</sub> ) levels and an increase in mortality rates, respiratory infections,

Criteria Pollutant	Description	Sources	Health Effects
	<p>major cause of reduced 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 deposited, resulting in adverse health effects. Additionally, it should be noted that PM<sub>10</sub> is considered a criteria air pollutant.</p> <p>PM<sub>2.5</sub> (Particulate Matter less than 2.5 microns): A similar air pollutant to PM<sub>10</sub> 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 sulfates formed from SO<sub>2</sub> released from power plants and industrial facilities and nitrates that are formed from NO<sub>x</sub> released 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<sub>2.5</sub> is a criteria air pollutant.</p>	<p>rain, NO<sub>x</sub>, SO<sub>x</sub>, organics). Incomplete combustion of any fuel.</p> <p>PM<sub>2.5</sub> comes from fuel combustion in motor vehicles, equipment and industrial sources, residential and agricultural burning. Also formed from reaction of other pollutants (acid rain, NO<sub>x</sub>, SO<sub>x</sub>, organics).</p>	<p>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 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.</p> <p>Daily fluctuations in PM<sub>2.5</sub> 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 healthy 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.</p> <p>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<sub>10</sub> and PM<sub>2.5</sub>.</p>
Volatile Organic Compounds (VOC)	<p>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</p>	<p>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</p>	<p>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.</p>

Criteria Pollutant	Description	Sources	Health Effects
	react at the same speed or do not form O <sub>3</sub> to the same extent when exposed to photochemical processes. VOCs often have an odor, and some examples include gasoline, alcohol, and the solvents used in paints. VOCs are a criteria pollutant since they are a precursor to O <sub>3</sub> , which is a criteria pollutant. The terms VOC and ROG interchangeable.	hobby products. Fuels are made up of organic chemicals. All of these products can release organic compounds while you are using them, and, to some degree, when they are stored.	
Lead (Pb)	<p>Lead is a heavy metal that is highly persistent in the environment and is considered a criteria pollutant. In the past, the primary source of lead in the air was emissions from vehicles burning leaded gasoline. The major sources of lead emissions are ore and metals processing, particularly lead 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 lead acid battery manufacturing. As such, the Project is not anticipated to generate a quantifiable amount of lead emissions.</p>	Metal smelters, resource recovery, leaded gasoline, deterioration of lead paint.	<p>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.</p> <p>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 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.</p>

Criteria Pollutant	Description	Sources	Health Effects
Odor	Odor means the perception experienced by a person when one or more chemical substance in the air come into contact with the human olfactory nerves.	Odors can come from many sources including animals, human activities, industry, nature, 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.

## 2.4 EXISTING AIR QUALITY

Existing air quality is measured at established MDAQMD air quality monitoring stations. Monitored air quality is evaluated and 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 (5).

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 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<sub>3</sub>, CO (except 8-hour Lake Tahoe), SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and visible reducing particles are not to be exceeded at any time in any consecutive three-year period; all other values are not to be equaled or 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 Air District meets the standards set by the United States 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 (6).

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

Ambient Air Quality Standards						
Pollutant	Averaging Time	California Standards <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> ) <sup>8</sup>	1 Hour	0.09 ppm (180 µg/m <sup>3</sup> )	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8 Hour	0.070 ppm (137 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> )		
Respirable Particulate Matter (PM <sub>10</sub> ) <sup>9</sup>	24 Hour	50 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	150 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m <sup>3</sup>		—		
Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>9</sup>	24 Hour	—	—	35 µg/m <sup>3</sup>	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	Gravimetric or Beta Attenuation	12.0 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m <sup>3</sup> )	Non-Dispersive Infrared Photometry (NDIR)	35 ppm (40 mg/m <sup>3</sup> )	—	Non-Dispersive Infrared Photometry (NDIR)
	8 Hour	9.0 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )	—	
	8 Hour (Lake Tahoe)	6 ppm (7 mg/m <sup>3</sup> )		—	—	
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>10</sup>	1 Hour	0.18 ppm (339 µg/m <sup>3</sup> )	Gas Phase Chemiluminescence	100 ppb (188 µg/m <sup>3</sup> )	—	Gas Phase Chemiluminescence
	Annual Arithmetic Mean	0.030 ppm (57 µg/m <sup>3</sup> )		0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	
Sulfur Dioxide (SO <sub>2</sub> ) <sup>11</sup>	1 Hour	0.25 ppm (655 µg/m <sup>3</sup> )	Ultraviolet Fluorescence	75 ppb (196 µg/m <sup>3</sup> )	—	Ultraviolet Fluorescence; Spectrophotometry (Pararosaniline Method)
	3 Hour	—		—	0.5 ppm (1300 µg/m <sup>3</sup> )	
	24 Hour	0.04 ppm (105 µg/m <sup>3</sup> )		0.14 ppm (for certain areas) <sup>11</sup>	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) <sup>11</sup>	—	
Lead <sup>12,13</sup>	30 Day Average	1.5 µg/m <sup>3</sup>	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m <sup>3</sup> (for certain areas) <sup>12</sup>	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m <sup>3</sup>		
Visibility Reducing Particles <sup>14</sup>	8 Hour	See footnote 14	Beta Attenuation and Transmittance through Filter Tape	No National Standards		
Sulfates	24 Hour	25 µg/m <sup>3</sup>	Ion Chromatography			
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m <sup>3</sup> )	Ultraviolet Fluorescence			
Vinyl Chloride <sup>12</sup>	24 Hour	0.01 ppm (26 µg/m <sup>3</sup> )	Gas Chromatography			

See footnotes on next page ...

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  $150 \mu\text{g}/\text{m}^3$  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  $25^\circ\text{C}$  and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of  $25^\circ\text{C}$  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 December 14, 2012, the national annual PM2.5 primary standard was lowered from  $15 \mu\text{g}/\text{m}^3$  to  $12.0 \mu\text{g}/\text{m}^3$ . The existing national 24-hour PM2.5 standards (primary and secondary) were retained at  $35 \mu\text{g}/\text{m}^3$ , as was the annual secondary standard of  $15 \mu\text{g}/\text{m}^3$ . The existing 24-hour PM10 standards (primary and secondary) of  $150 \mu\text{g}/\text{m}^3$  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  $\text{SO}_2$  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  $\text{SO}_2$  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 ( $1.5 \mu\text{g}/\text{m}^3$  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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## 2.5 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: O<sub>3</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub> and Pb which are known as criteria pollutants. The MDAQMD monitors levels of various criteria pollutants at 6 permanent monitoring stations throughout the air district (7). On January 25, 2024, California Air Resources Board (CARB) adopted the 2023 amendments to the State and national area designations. See Table 2-3 for attainment designations for the MDAB (8). Appendix 2.1 provides geographic representation of the state and federal attainment status for applicable criteria pollutants within the MDAB.

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

Criteria Pollutant	State Designation	Federal Designation
O <sub>3</sub> – 1-hour standard	Nonattainment	No 1-hour standard
O <sub>3</sub> – 8-hour standard	Nonattainment	Nonattainment
PM <sub>10</sub>	Nonattainment	Unclassified
PM <sub>2.5</sub>	Attainment	Unclassifiable/Attainment
CO	Attainment	Unclassifiable/Attainment
NO <sub>2</sub>	Attainment	Unclassifiable/Attainment
SO <sub>2</sub>	Attainment	Unclassifiable/Attainment
Pb	Attainment	Unclassifiable/Attainment

Note: See Appendix 2.1 for a detailed map of State/National Area Designations within the MDAB.  
“-” = The national 1-hour O<sub>3</sub> standard was revoked effective June 15, 2005.

## 2.6 LOCAL AIR QUALITY

Relative to the Project site, the nearest long-term air quality monitoring site for O<sub>3</sub>, NO<sub>2</sub>, PM<sub>10</sub> and PM<sub>2.5</sub> was obtained from the MDAQMD Victorville-Park Avenue, located approximately 4.33 miles east of the project site in Victorville. It should be noted that the data for CO was not available at MDAQMD Victorville-Park Avenue nor the nearest alternative monitoring station, MDAQMD Hesperia-Olive Street.

The most recent three (3) years of data available is 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<sub>3</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> was obtained using the CARB iADAM: Air Quality and Data Statistics and the Air Quality and Meteorological Information System (AQMIS) (9) (10). Data for SO<sub>2</sub> has been omitted as attainment is regularly met and few monitoring stations measure SO<sub>2</sub> concentrations.

**TABLE 2-4: PROJECT AREA AIR QUALITY MONITORING SUMMARY 2020-2022**

Pollutant	Standard	Year		
		2020	2021	2022
O <sub>3</sub>				
Maximum Federal 1-Hour Concentration (ppm)		0.112	0.112	0.100
Maximum Federal 8-Hour Concentration (ppm)		0.094	0.098	0.090
Number of Days Exceeding State 1-Hour Standard	> 0.09 ppm	4	8	3
Number of Days Exceeding State/Federal 8-Hour Standard	> 0.070 ppm	38	35	49
CO				
Maximum Federal 1-Hour Concentration	> 35 ppm	--	--	--
Maximum Federal 8-Hour Concentration	> 20 ppm	--	--	--
NO <sub>2</sub>				
Maximum Federal 1-Hour Concentration	> 0.100 ppm	59.4	56.6	53.5
Annual Federal Standard Design Value		13	13	13
PM <sub>10</sub>				
Maximum Federal 24-Hour Concentration (µg/m <sup>3</sup> )	> 150 µg/m <sup>3</sup>	261.4	591.6	372.1
Annual Federal Arithmetic Mean (µg/m <sup>3</sup> )		34.0	33.9	33.6
Number of Days Exceeding Federal 24-Hour Standard	> 150 µg/m <sup>3</sup>	2	1	2
Number of Days Exceeding State 24-Hour Standard	> 50 µg/m <sup>3</sup>	--	--	--
PM <sub>2.5</sub>				
Maximum Federal 24-Hour Concentration (µg/m <sup>3</sup> )	> 35 µg/m <sup>3</sup>	48.4	87.1	24.6
Annual Federal Arithmetic Mean (µg/m <sup>3</sup> )	> 12 µg/m <sup>3</sup>	9.7	10.2	8.9
Number of Days Exceeding Federal 24-Hour Standard	> 35 µg/m <sup>3</sup>	4	1	0

Source: California Air Resource Board iADAM: Air Quality Data Statistics and AQMIS

ppm = Parts Per Million

µg/m<sup>3</sup> – microgram per cubic meter

-- = data not available

## 2.7 REGULATORY BACKGROUND

### 2.7.1 FEDERAL REGULATIONS

The U.S. EPA is responsible for setting and enforcing the NAAQS for O<sub>3</sub>, CO, NO<sub>x</sub>, SO<sub>2</sub>, PM<sub>10</sub>, and lead (11). The U.S. 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 U.S. EPA also establishes emission standards for vehicles sold in states other than California. Automobiles sold in California must meet the stricter emission requirements of the CARB.

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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 (12). The CAA also mandates that states submit and implement State Implementation Plans (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) (13) (14). Title I provisions were established with the goal of attaining the NAAQS for the following criteria pollutants O<sub>3</sub>, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, CO, PM<sub>2.5</sub>, and Pb. The NAAQS were amended in July 1997 to include an additional standard for O<sub>3</sub> and to adopt a NAAQS for PM<sub>2.5</sub>. Table 2-3 (previously presented) provides the NAAQS within the MDAB. 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<sub>x</sub>. NO<sub>x</sub> is a collective term that includes all forms of NO<sub>x</sub> which are emitted as byproducts of the combustion process.

## **2.7.2 CALIFORNIA REGULATIONS**

### **CARB**

CARB, which became part of the 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<sub>4</sub>, visibility, hydrogen sulfide (H<sub>2</sub>S), and vinyl chloride (C<sub>2</sub>H<sub>3</sub>Cl). However, at this time, H<sub>2</sub>S and C<sub>2</sub>H<sub>3</sub>Cl are not measured at any monitoring stations in the MDAB because they are not considered to be a regional air quality problem. Generally, the CAAQS are more stringent than the NAAQS (15) (16).

Local air quality management districts, such as the MDAQMD, 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 five percent or more annual reduction in emissions or 15 percent or more in a period of three years for ROG<sub>s</sub>, NO<sub>x</sub>, CO and PM<sub>10</sub>. However, air basins may use alternative emission reduction strategy that achieves a reduction of less than five percent 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 (BSC).

CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 California Green Building Code Standards, effective as of January 1, 2023. The California Energy Commission (CEC) anticipates that the 2022 California Green Building Code will provide \$1.5 billion in consumer benefits and reduce GHG emissions by 10 million metric tons (17). The Project would be required to comply with the applicable California Green Building Code Standards in place at the time plan check submittals for the Project are made. These require, among other items (18):

### **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 5.106.5.3.3 (5.106.5.3). Additionally, Table 5.106.5.4.1 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, upright and glare ratings per Table 5.106.8 (5.106.8).

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- 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). It should be noted that pursuant to PDF Solid Waste Reduction, the project would exceed this measure by implementing a 75% waste diversion program.
  - Excavated soil and land clearing debris. 100% of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reuse 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 combine 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 square feet (sf) or for excess consumption where any tenant within a new building or within an addition that is project 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).

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- 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).

### **2.7.3 AIR QUALITY MANAGEMENT PLANNING**

Currently, the NAAQS and CAAQS are exceeded in most parts of the MDAB. The NAAQS, the Project region within the MDAB is in nonattainment for O<sub>3</sub> (8-hour) and PM<sub>10</sub>. For the CAAQS, the Project region within the MDAB is in nonattainment for O<sub>3</sub> (1-hour and 8-hour) and PM<sub>10</sub>. In response, the MDAQMD has adopted a series of Air Quality Management Plans (AQMPs) to meet the state and federal ambient air quality standards (19). 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 3.7.

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## 3 PROJECT AIR QUALITY IMPACT

### 3.1 INTRODUCTION

The Project has been evaluated to determine if it will violate an air quality standard or contribute to an existing or projected air quality violation. Additionally, the Project has been evaluated to determine if it will result in a cumulatively considerable net increase of a criteria pollutant for which the MDAB is non-attainment under an applicable federal or state ambient air quality standard. The significance of these potential impacts is described in the following section.

### 3.2 STANDARDS OF SIGNIFICANCE

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 California Code of Regulations §§15000, et seq.). Based on these thresholds, a project would result in a significant impact related to air quality if it would (20):

- Conflict with or obstruct implementation of the applicable air quality plan.
- Violate any air quality standard or contribute to an existing or projected air quality violation.
- 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 (including releasing emissions, which exceed quantitative thresholds for ozone precursors).
- Expose sensitive receptors to substantial pollutant concentrations.
- Create objectionable odors affecting a substantial number of people.

The MDAQMD has developed regional significance thresholds for regulated pollutants, shown below in Table 3-1. The MDAQMD's *CEQA and Federal Conformity Guidelines* indicate that any projects in the MDAB with daily regional emissions that exceed any of the indicated thresholds should be considered as having an individually and cumulatively significant air quality impact (21).

**TABLE 3-1: MAXIMUM REGIONAL DAILY EMISSIONS THRESHOLDS**

Pollutant	Daily Threshold (lbs/day)
CO	548 lbs/day
NO <sub>x</sub>	137 lbs/day
VOC	137 lbs/day
SO <sub>x</sub>	137 lbs/day
PM <sub>10</sub>	82 lbs/day
PM <sub>2.5</sub>	65 lbs/day

Note: lbs/day – pounds per day

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### **3.3 MODELS EMPLOYED TO ANALYZE AIR QUALITY EMISSIONS**

#### **3.3.1 CalEEMod**

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

In May 2022 California Air Pollution Control Officers Association (CAPCOA) in conjunction with other California air districts, including MDAQMD, released the latest version of CalEEMod version 2022.1. The purpose of this model is to calculate construction-source and operational-source criteria pollutant (VOCs, NO<sub>x</sub>, SO<sub>x</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>) and GHG emissions from direct and indirect sources; and quantify applicable air quality and GHG reductions achieved from mitigation measures (22). 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 Appendix 3.1.

### **3.4 CONSTRUCTION EMISSIONS**

#### **3.4.1 CONSTRUCTION ACTIVITIES**

Construction activities associated with the Project will result in emissions of VOCs, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. 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. Per client provided data, this analysis assumes that earthwork activities are expected to balance on site and no import or export of soils would be required.

#### **ON-ROAD TRIPS**

Construction generates on-road vehicle emissions from vehicle usage for workers, hauling, and vendors commuting to and from the site. The number of workers, hauling, and vendor trips are presented below in Table 3-2. It should be noted that for vendor trips, specifically, CalEEMod only assigns vendor trips to the Building Construction phase. Vendor trips would likely occur during all

phases of construction. As such, the CalEEMod defaults for vendor trips have been adjusted based on a ratio of the total vendor trips to the number of days of each subphase of activity.

**TABLE 3-2: CONSTRUCTION TRIP ASSUMPTIONS**

Construction Activity	Worker Trips Per Day	Vendor Trips Per Day	Hauling Trips Per Day
Site Preparation	28	1	0
Grading	23	2	0
Building Construction	61	21	0
Paving	15	0	0
Architectural Coating	12	0	0

### 3.4.2 CONSTRUCTION DURATION

Construction is expected to commence in April 2025 and will last through December 2026. Construction duration by phase is shown on Table 3-3. The construction schedule utilized in the analysis represents a “worst-case” 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.<sup>1</sup> The duration of construction activity and associated equipment represents a reasonable approximation of the expected construction fleet as required per CEQA guidelines.

**TABLE 3-3: CONSTRUCTION DURATION**

Construction Activity	Start Date	End Date	Days
Site Preparation	4/1/2025	4/24/2025	18
Grading	4/25/2025	6/13/2025	36
Building Construction	6/16/2025	12/30/2026	403
Paving	11/10/2026	12/30/2026	37
Architectural Coating	11/10/2026	12/30/2026	37

Source: Construction schedule based on CalEEMod default parameters.

### 3.4.3 CONSTRUCTION EQUIPMENT

Consistent with industry standards and typical construction practices, each piece of equipment listed in Table 3-4 would operate up to a total of eight (8) hours per day, or more than two-thirds of the period during which construction activities are allowed pursuant to the City Code.

<sup>1</sup> As shown in the California Emissions Estimator Model (CalEEMod) User’s Guide Version, Section 4.3 “OFFROAD Equipment” as the analysis year increases, emission factors for the same equipment pieces decrease due to the natural turnover of older equipment being replaced by newer less polluting equipment and new regulatory requirements.

**TABLE 3-4: CONSTRUCTION EQUIPMENT ASSUMPTIONS**

Construction Activity	Equipment <sup>1</sup>	Amount	Hours Per Day
Site Preparation	Rubber Tired Dozers	3	8
	Crawler Tractors	4	8
Grading	Excavators	2	8
	Graders	1	8
	Rubber Tired Dozers	1	8
	Crawler Tractors	2	8
Building Construction	Cranes	1	8
	Forklifts	3	8
	Generator Sets	1	8
	Tractors/Loaders/Backhoes	3	8
	Welders	1	8
Paving	Pavers	2	8
	Paving Equipment	2	8
	Rollers	2	8
Architectural Coating	Air Compressors	1	8

<sup>1</sup> In order to account for fugitive dust emissions, Crawler Tractors were used in lieu of Tractors/Loaders/Backhoes during the site preparation and grading phases of Project construction.

### 3.4.4 CONSTRUCTION EMISSIONS SUMMARY

#### IMPACTS WITHOUT MITIGATION

The estimated maximum daily construction emissions without mitigation are summarized on Table 3-5. Detailed construction model outputs are presented in Appendix 3.1. Under the assumed scenarios, emissions resulting from the Project construction would not exceed criteria pollutant thresholds established by the MDAQMD.

**TABLE 3-5: EMISSIONS SUMMARY OF CONSTRUCTION (WITHOUT MITIGATION)**

Year	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Summer						
2025	4.15	37.58	33.90	0.05	7.83	4.52
2026	1.47	11.60	19.08	0.03	1.40	0.62

Year	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Winter						
2025	1.51	12.36	17.87	0.03	1.46	0.68
2026	23.20	20.06	30.36	0.05	2.11	1.03
<b>Maximum Daily Emissions</b>	<b>23.20</b>	<b>37.58</b>	<b>33.90</b>	<b>0.05</b>	<b>7.83</b>	<b>4.52</b>
SCAQMD Regional Threshold	75	100	550	150	150	55
<b>Threshold Exceeded?</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>	<b>NO</b>

Source: CalEEMod construction-source (unmitigated) emissions are presented in Appendix 3.1.

### 3.5 OPERATIONAL EMISSIONS

Operational activities associated with the Project will result in emissions of VOC, NO<sub>x</sub>, CO, SO<sub>x</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. Operational emissions would be expected from the following primary sources:

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

#### 3.5.1 AREA SOURCE EMISSIONS

##### ARCHITECTURAL COATINGS

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 standard assumptions for the Project and the allowed land use.

##### 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 ozone 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, shredders/grinders, blowers, trimmers, chain saws, and hedge trimmers used to maintain the landscaping of the Project. It should be noted that as October 9, 2021, Governor Gavin Newsom signed AB 1346. The bill aims to ban the sale of new gasoline-powered equipment under 25 gross horsepower (known as small off-road engines [SOREs]) by January 1, 2024, which is now in effect.

For purposes of analysis, the emissions associated with landscape maintenance equipment were calculated based on assumptions provided in CalEEMod.

### 3.5.2 ENERGY SOURCE EMISSIONS

#### COMBUSTION EMISSIONS ASSOCIATED WITH NATURAL GAS AND ELECTRICITY

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 MDAB, criteria pollutant emissions from offsite generation of electricity are excluded from the evaluation of significance. Electricity and natural gas usage associated with the Project were calculated by CalEEMod using default parameters.

### 3.5.3 MOBILE SOURCE EMISSIONS

The Project-related operational air quality emissions derive primarily from vehicle trips generated by the Project, including employee trips to and from the site associated with the proposed uses. Trip characteristics available from the *Adelanto Trip Generation Analysis* (Translutions) were utilized in this analysis (23).

#### 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 tire wear particulates. The emissions estimates for travel on paved roads were calculated using the CalEEMod standard assumptions.

### 3.5.4 OPERATIONAL EMISSIONS SUMMARY

Operational-source emissions are summarized on Table 3-6. Detailed operational model outputs are presented in Appendix 3.1. Project operational-source emissions would not exceed the applicable MDAQMD thresholds for any criteria pollutant. Thus, a less than significant impact would occur for Project operational-source emissions and no mitigation is required.

**TABLE 3-6: SUMMARY OF PEAK OPERATIONAL EMISSIONS**

Source	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Summer						
Mobile Source	3.51	2.90	26.57	0.06	5.06	1.32
Area Source	4.46	0.05	6.45	0.00	0.01	0.01
Energy Source	0.06	1.07	0.90	0.01	0.08	0.08
<b>Project Maximum Daily Emissions</b>	<b>8.02</b>	<b>4.02</b>	<b>33.92</b>	<b>0.07</b>	<b>5.15</b>	<b>1.41</b>
SCAQMD Regional Threshold	55	55	550	150	150	55

Source	Emissions (lbs/day)					
	VOC	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Threshold Exceeded?	NO	NO	NO	NO	NO	NO
Winter						
Mobile Source	3.07	3.12	20.84	0.05	5.06	1.32
Area Source	3.40	0.00	0.00	0.00	0.00	0.00
Energy Source	0.06	1.07	0.90	0.01	0.08	0.08
<b>Project Maximum Daily Emissions</b>	<b>6.53</b>	<b>4.19</b>	<b>21.74</b>	<b>0.06</b>	<b>5.14</b>	<b>1.40</b>
SCAQMD Regional Threshold	55	55	550	150	150	55
Threshold Exceeded?	NO	NO	NO	NO	NO	NO

Source: CalEEMod operational-source emissions are presented in Appendix 3.1.

### 3.6 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. At the time of the 1993 Handbook, the MDAB was designated nonattainment under the CAAQS and NAAQS for CO (24).

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 MDAB is now designated as attainment. To establish a more accurate record of baseline CO concentrations affecting the MDAB, 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 3-7.

**TABLE 3-7: 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

It should be noted that MDAQMD has not established its own guidelines for CO hotspots analysis. Since the MDAQMD guidelines are based on SCAQMD methodology, it is appropriate to apply the SCAQMD criteria when analyzing CO hotspots within the MDAQMD.

Based on the SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (*1992 CO Plan*)<sup>2</sup>, peak carbon monoxide concentrations in the MDAB 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 (25). 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.

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 (26). Traffic volumes generating the CO concentrations for the “hot spot” analysis is shown on Table 3-8. 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 (25). The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm; this indicates that, should the daily traffic volume increase four times to 400,000 vehicles per day, CO concentrations (4.6 ppm x 4= 18.4 ppm) would still not likely exceed the most stringent 1-hour CO standard (20.0 ppm)<sup>3</sup>.

**TABLE 3-8: 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

Source: 2003 AQMP

<sup>2</sup> The 1992 and 2003 analyses from SCAQMD are the most current CO hotspot evaluations they have conducted.

<sup>3</sup> Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm)

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### 3.7 AIR QUALITY MANAGEMENT PLANNING

The Federal Particulate Matter Attainment Plan and Ozone Attainment Plan for the Mojave Desert set forth a comprehensive set of programs that will lead the MDAB into compliance with federal and state air quality standards. The control measures and related emission reduction estimates within the Federal Particulate Matter Attainment Plan and Ozone Attainment Plan are based upon emissions projections for a future development scenario derived from land use, population, and employment characteristics defined in consultation with local governments. Accordingly, conformance with these attainment plans for development projects is determined by demonstrating compliance with: 1) local land use plans and/or population projections, 2) all MDAQMD Rules and Regulations; and 3) demonstrating that the project will not increase the frequency or severity of a violation in the federal or state ambient air quality standards.

The City of Adelanto General Plan designates the Project site for “General Commercial (C)” uses. The “C” designation allows for retail centers that serve community-wide needs and neighborhood needs such as “big box” stores, furniture stores, appliance and home electronics retailers, movie theatres, service commercial businesses, professional business offices, restaurants, etc. (27).

As the proposed Project will consist of a 4,700-sf strip retail plaza, a 4,700-sf office, a 139,000-sf self-storage building, and 68 RV parking spaces on approximately 8.75 acres, the Project’s proposed uses are consistent with the site’s land use designations.

#### **AQMP Consistency Conclusion**

The Project would not result in or cause NAAQS or CAAQS violations. The Project’s proposed land use designation for the subject site is consistent with the land use designation discussed in the General Plan. Furthermore, the Project would not exceed the applicable regional thresholds and would therefore be considered to have a less than significant impact. The Project is therefore considered to be consistent with the AQMP.

### 3.8 POTENTIAL IMPACTS TO SENSITIVE RECEPTORS

The potential impact of Project-generated air pollutant emissions at 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. The nearest sensitive receptor is an existing residence located at 11894 Cambridge Street, approximately 79 feet west of the Project site.

As per the MDAQMD Guidelines, the following project types located within a specified distance to an existing or planned sensitive receptor land use must be evaluated to determine exposure of substantial pollutant concentrations to sensitive receptors (21):

- Any industrial project within 1,000 feet;
- A distribution center (40 or more trucks per day) within 1,000 feet;
- A major transportation project (50,000 or more vehicles per day) within 1,000 feet;

- 
- A dry cleaner using perchloroethylene within 500 feet;
  - A gasoline dispensing facility within 300 feet.

The proposed Project consists of a 4,700-sf strip retail plaza, a 4,700-sf office, a 139,000-sf self-storage building, and 68 RV parking spaces on approximately 8.75 acres. As such, no analysis for sensitive receptors is required. Additionally, results of the regional analysis indicate that the Project will not exceed the MDAQMD significance thresholds during construction or operations. Therefore, sensitive receptors would not be subject to a significant air quality impact during Project construction and operational activities.

The proposed Project would not result in a CO “hotspot” as a result of Project related traffic during ongoing operations, nor would the Project result in a significant adverse health impact as discussed in Section 3.6. Thus, a less than significant impact to sensitive receptors during operational activity is expected.

### **3.9 ODORS**

The potential for the Project to generate objectionable odors has also been considered. 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 Project does not contain land uses typically associated with emitting objectionable odors. 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 and the temporary storage of typical solid waste (refuse) associated with the proposed Project’s (long-term operational) uses. 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 in compliance with the City’s solid waste regulations. The proposed Project would also be required to comply with MDAQMD Rule 402 to prevent occurrences of public nuisances. Therefore, odors, and emissions that may lead to odors, associated with the proposed Project construction and operations would be less than significant and no mitigation is required.

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### 3.10 CUMULATIVE IMPACTS

Related projects could contribute to an existing or projected air quality exceedance because the Basin is currently nonattainment for O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>.

The MDAQMD relies on the SCAQMD guidance for determining cumulative impacts. The SCAQMD has recognized that there is typically insufficient information to quantitatively evaluate the cumulative contributions of multiple projects because each project applicant has no control over nearby projects.

The SCAQMD 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* (28). In this report the AQMD 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 toxic air contaminant (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.”*

Individual projects that do not generate operational or construction emissions that exceed the MDAQMD’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. Conversely, individual project-related construction and operational emissions that exceed MDAQMD thresholds for project-specific impacts would be considered cumulatively considerable. As previously noted, the Project will not exceed the applicable MDAQMD regional threshold for construction and operational-source emissions. As such, the Project will not result in a cumulatively significant impact for construction or operational activity.

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## 4 CONCLUSION

### **CONSTRUCTION-SOURCE EMISSIONS**

#### *REGIONAL IMPACTS*

For regional emissions, the Project will not exceed the numerical thresholds of significance established by the Mojave Desert Air Quality Management District (MDAQMD). Thus, a less than significant impact would occur for Project-related construction-source emissions and no mitigation measures are required.

#### *Odors*

Established requirements addressing construction equipment operations, and construction material use, storage, and disposal requirements act to minimize odor impacts that may result from construction activities. Moreover, construction-source odor emissions would be temporary, short-term, and intermittent in nature and would not result in persistent impacts that would affect substantial numbers of people. Potential construction-source odor impacts are therefore considered less-than-significant.

### **OPERATIONAL-SOURCE EMISSIONS**

#### *REGIONAL IMPACTS*

For regional emissions, the Project would not exceed the numerical thresholds of significance established by the MDAQMD. Thus, a less than significant impact would occur for Project-related operational-source emissions and no mitigation measures are required.

The proposed Project would not result in a significant CO “hotspot” as a result of Project related traffic during ongoing operations, nor would the Project result in a significant adverse health impact as discussed in Section 3.6, thus a less than significant impact to sensitive receptors during operational activity is expected.

#### *ODORS*

Substantial odor-generating sources include land uses such as agricultural activities, feedlots, wastewater treatment facilities, landfills or various heavy industrial uses. The Project does not propose any such uses or activities that would result in potentially significant operational-source odor impacts. Potential sources of operational odors generated by the Project would include disposal of miscellaneous refuse. Moreover, MDAQMD Rule 402 acts to prevent occurrences of odor nuisances (29). Consistent with City of Adelanto requirements, all Project-generated refuse would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations. Potential operational-source odor impacts are therefore considered less-than-significant.

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## 6 CERTIFICATION

The contents of this air study report represent an accurate depiction of the environmental impacts associated with the proposed Seneca Road Project. 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](mailto:hqureshi@urbanxroads.com).

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### EDUCATION

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

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

### PROFESSIONAL AFFILIATIONS

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

### PROFESSIONAL CERTIFICATIONS

Environmental Site Assessment – American Society for Testing and Materials • June, 2013  
Planned Communities and Urban Infill – Urban Land Institute • June, 2011  
Indoor Air Quality and Industrial Hygiene – EMSL Analytical • April, 2008  
Principles of Ambient Air Monitoring – California Air Resources Board • August, 2007  
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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 <sup>1</sup>		National Standards <sup>2</sup>		
		Concentration <sup>3</sup>	Method <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Method <sup>7</sup>
Ozone (O <sub>3</sub> ) <sup>8</sup>	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) <sup>9</sup>	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) <sup>9</sup>	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 <sub>2</sub> ) <sup>10</sup>	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 <sub>2</sub> ) <sup>11</sup>	1 Hour	0.25 ppm (655 µg/m³)	Ultraviolet Fluorescence	75 ppb (196 µg/m³)	—	Ultraviolet Fluorescence; 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) <sup>11</sup>	—	
	Annual Arithmetic Mean	—		0.030 ppm (for certain areas) <sup>11</sup>	—	
Lead <sup>12,13</sup>	30 Day Average	1.5 µg/m³	Atomic Absorption	—	—	High Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m³ (for certain areas) <sup>12</sup>	Same as Primary Standard	
	Rolling 3-Month Average	—		0.15 µg/m³		
Visibility Reducing Particles <sup>14</sup>	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 <sup>12</sup>	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 (PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2. National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than one. For PM<sub>2.5</sub>, 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 PM<sub>2.5</sub> primary standard was lowered from 15 µg/m<sup>3</sup> to 12.0 µg/m<sup>3</sup>. The existing national 24-hour PM<sub>2.5</sub> standards (primary and secondary) were retained at 35 µg/m<sup>3</sup>, as was the annual secondary standard of 15 µg/m<sup>3</sup>. The existing 24-hour PM<sub>10</sub> standards (primary and secondary) of 150 µg/m<sup>3</sup> 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<sub>2</sub> 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<sub>2</sub> 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 µg/m<sup>3</sup> 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:

<b>Designation</b>	<b>Abbreviation</b>
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**



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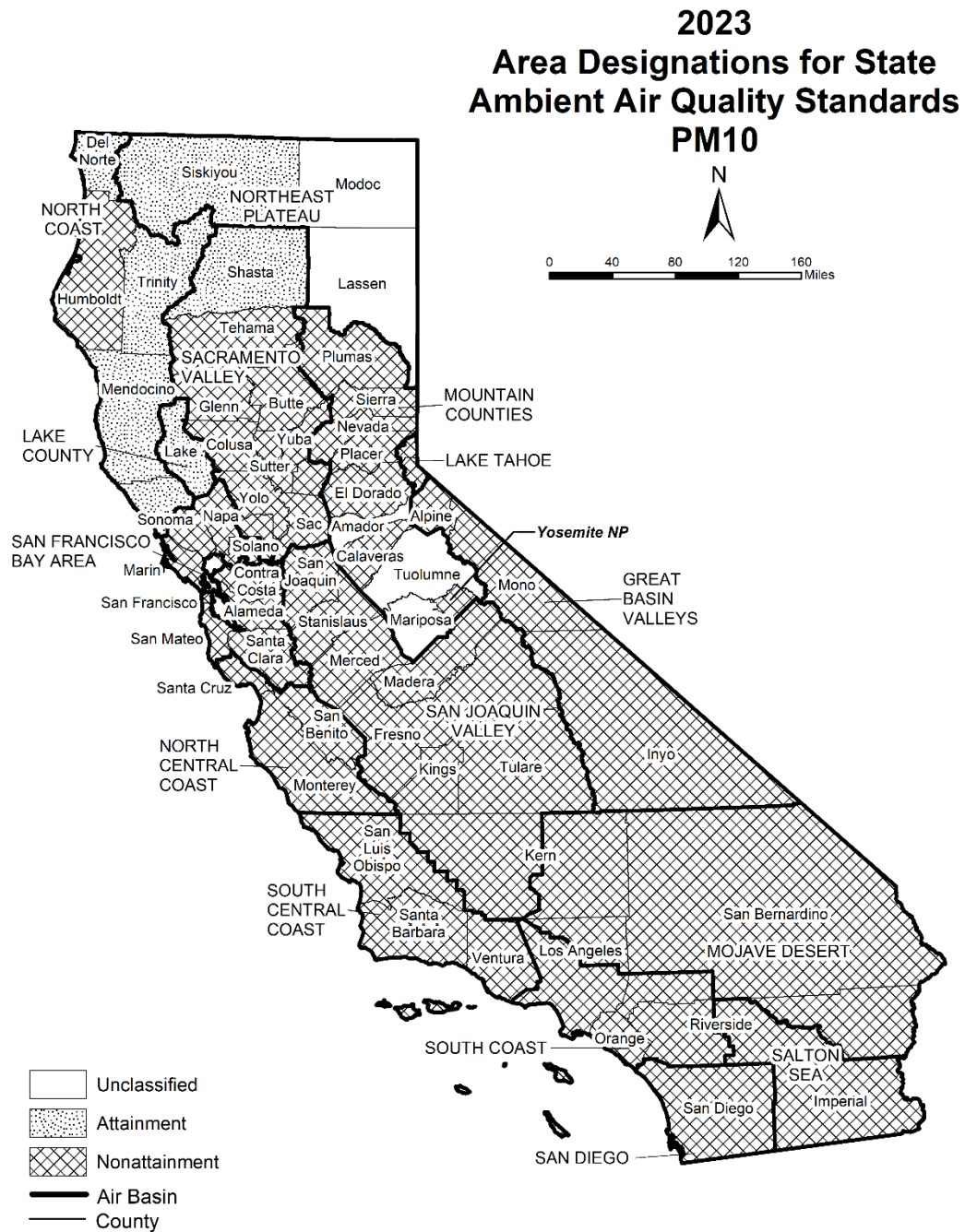
**Table 1**  
**California Ambient Air Quality Standards Area Designations for**  
**Ozone<sup>1</sup>**

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			

<sup>1</sup> 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**



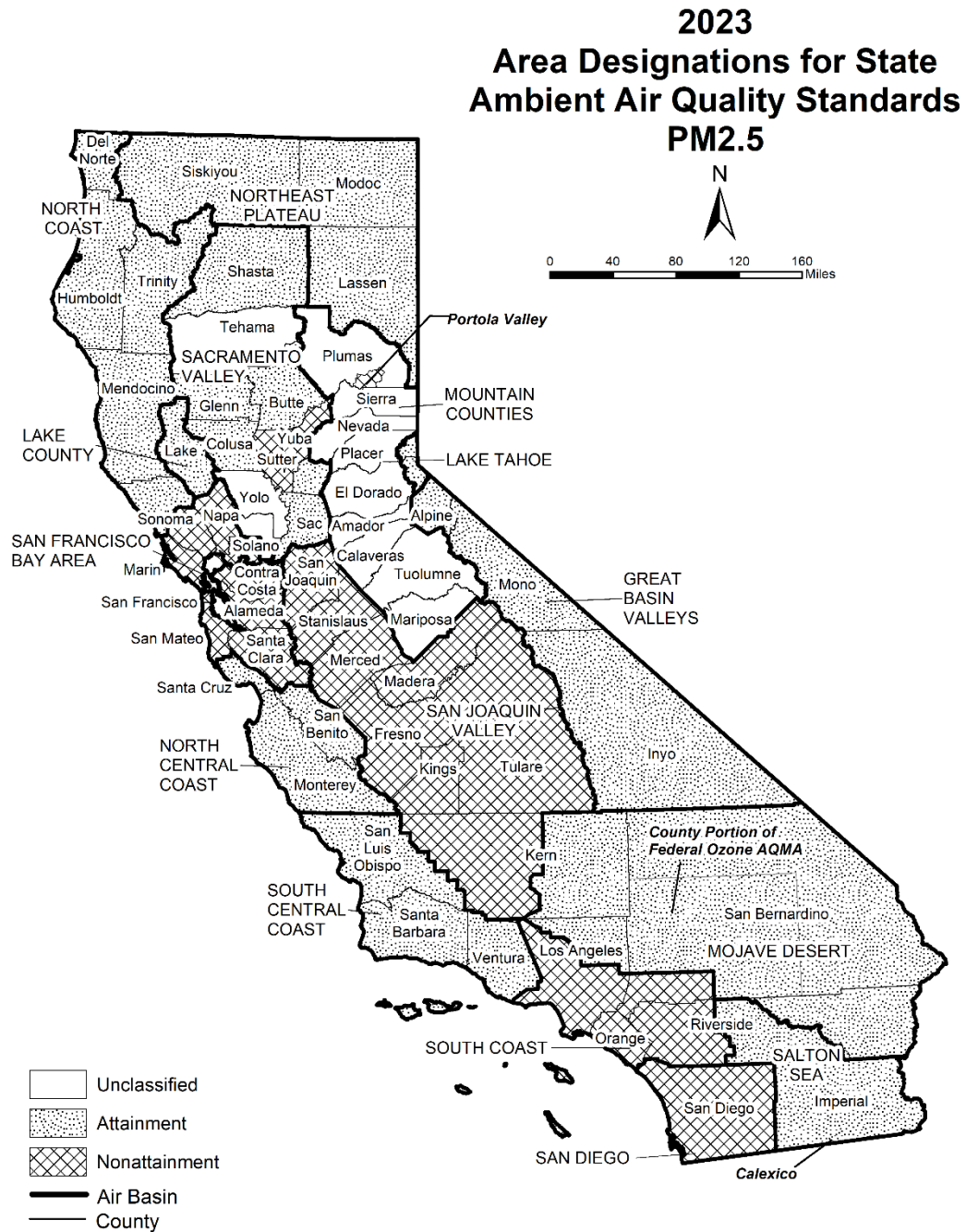
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**Table 2**  
**California Ambient Air Quality Standards Area Designations for**  
**Suspended Particulate Matter (PM<sub>10</sub>)**

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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**Table 3**  
**California Ambient Air Quality Standards Area Designations for**  
**Fine Particulate Matter (PM<sub>2.5</sub>)**

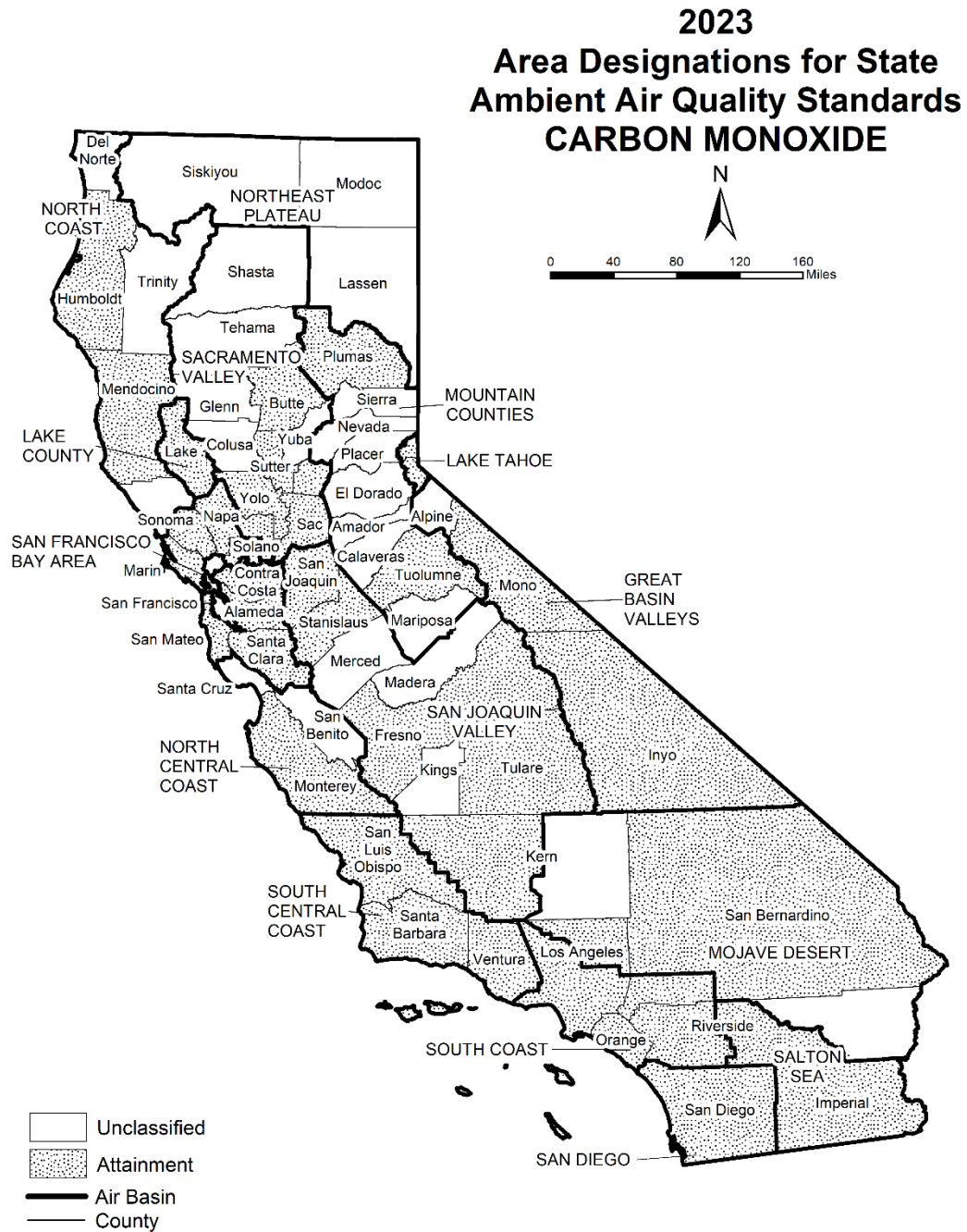
Area	N	U	A
GREAT BASIN VALLEYS AIR BASIN			A
LAKE COUNTY AIR BASIN			A
LAKE TAHOE AIR BASIN			A
MOJAVE DESERT AIR BASIN			A
MOUNTAIN COUNTIES AIR BASIN			
Plumas County			
- Portola Valley <sup>1</sup>	N		
- Remainder Plumas County		U	
Remainder of Air Basin		U	
NORTH CENTRAL COAST AIR BASIN			A
NORTH 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 <sup>2</sup>	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		

<sup>1</sup> California Code of Regulations, title 17, section 60200(c)

<sup>2</sup> 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**



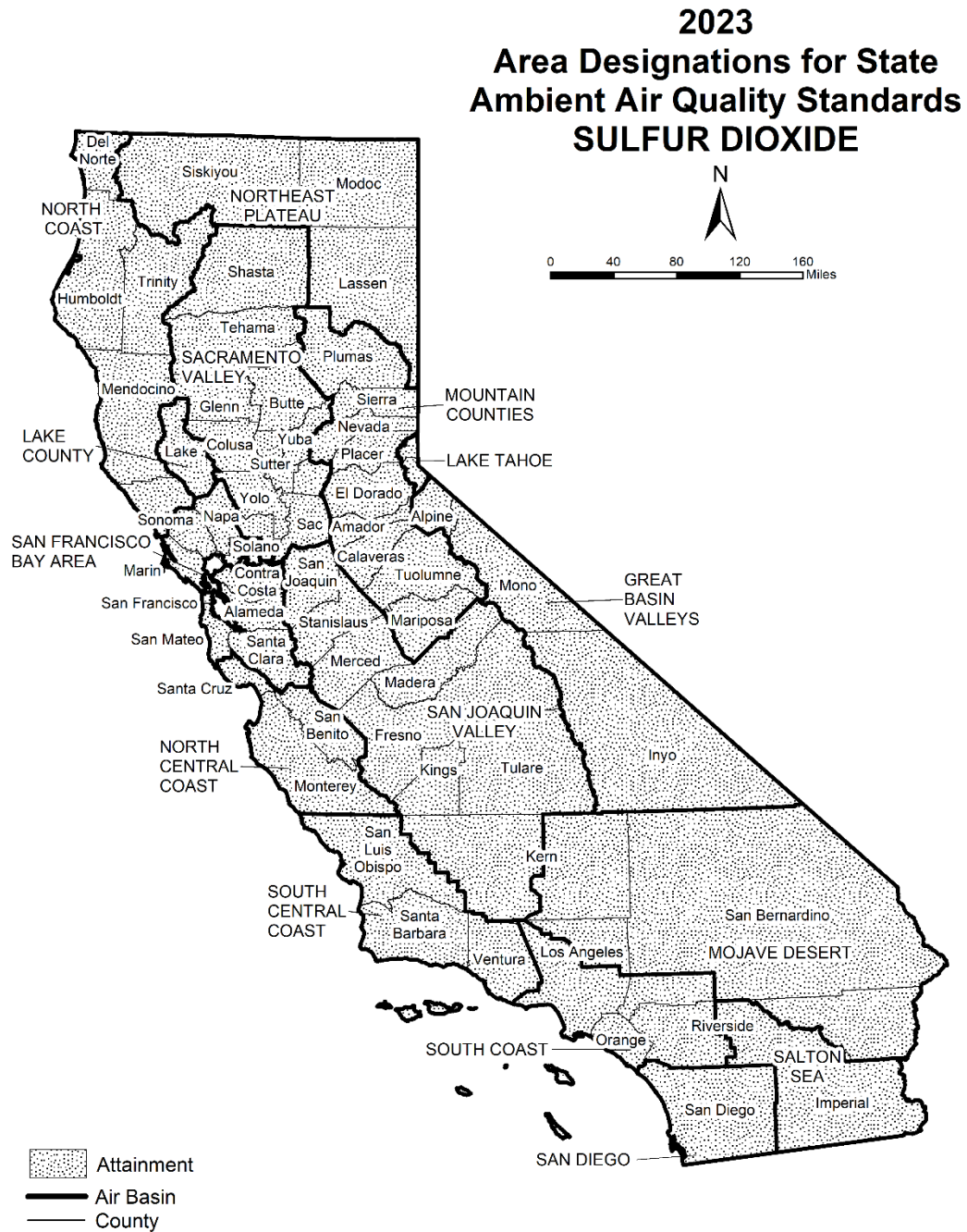
Last Updated: November 2023  
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**Table 5**  
**California Ambient Air Quality Standards Area Designations for**  
**Nitrogen Dioxide**

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

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			
CA 60 Near-road Portion of San Bernardino, Riverside, and Los Angeles Counties			A
Remainder of Air Basin			A

**Figure 6**



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**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**



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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

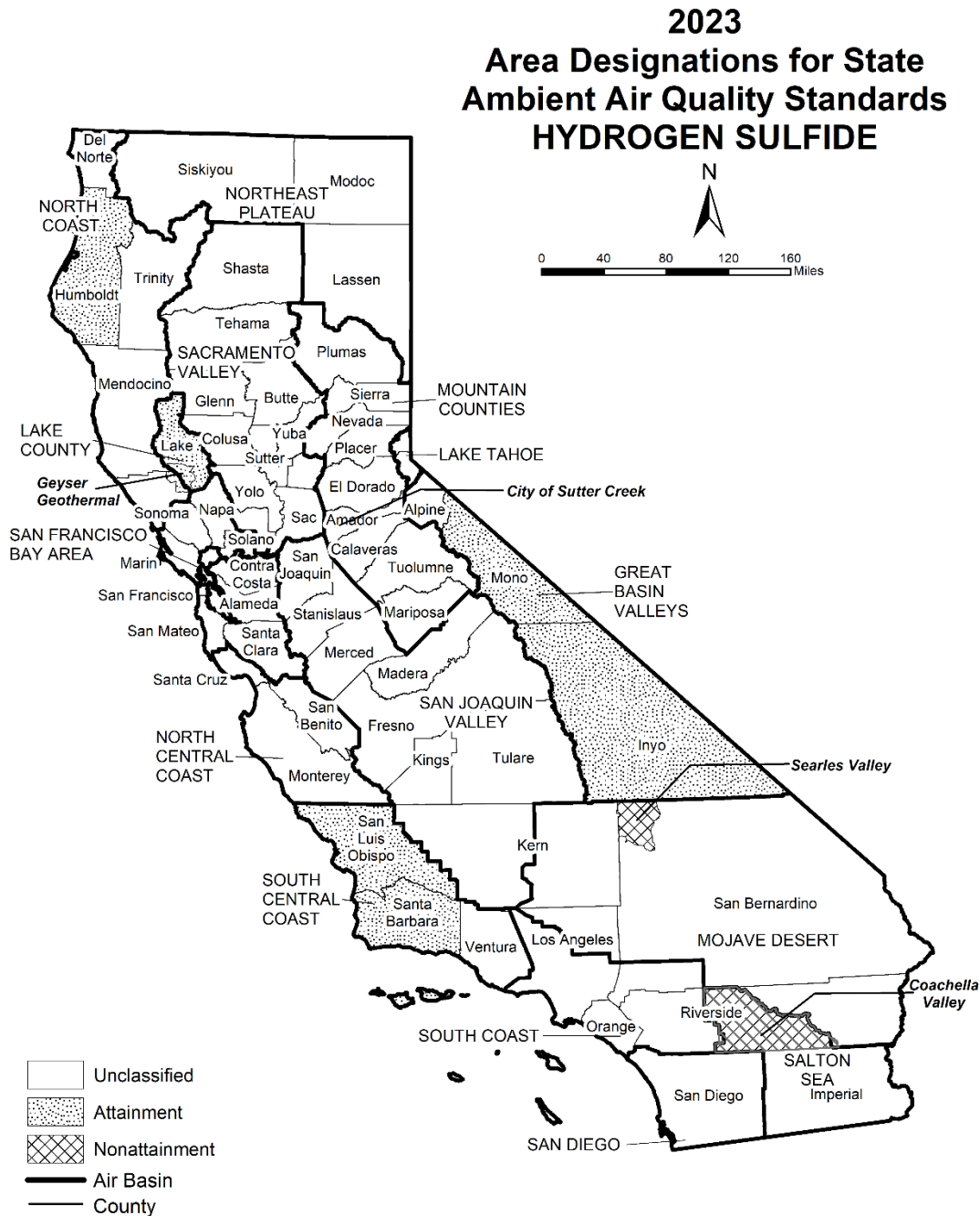
**Table 8**  
**California Ambient Air Quality Standards Area Designations for**  
**Lead (particulate)\***

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 <sup>1</sup>	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	

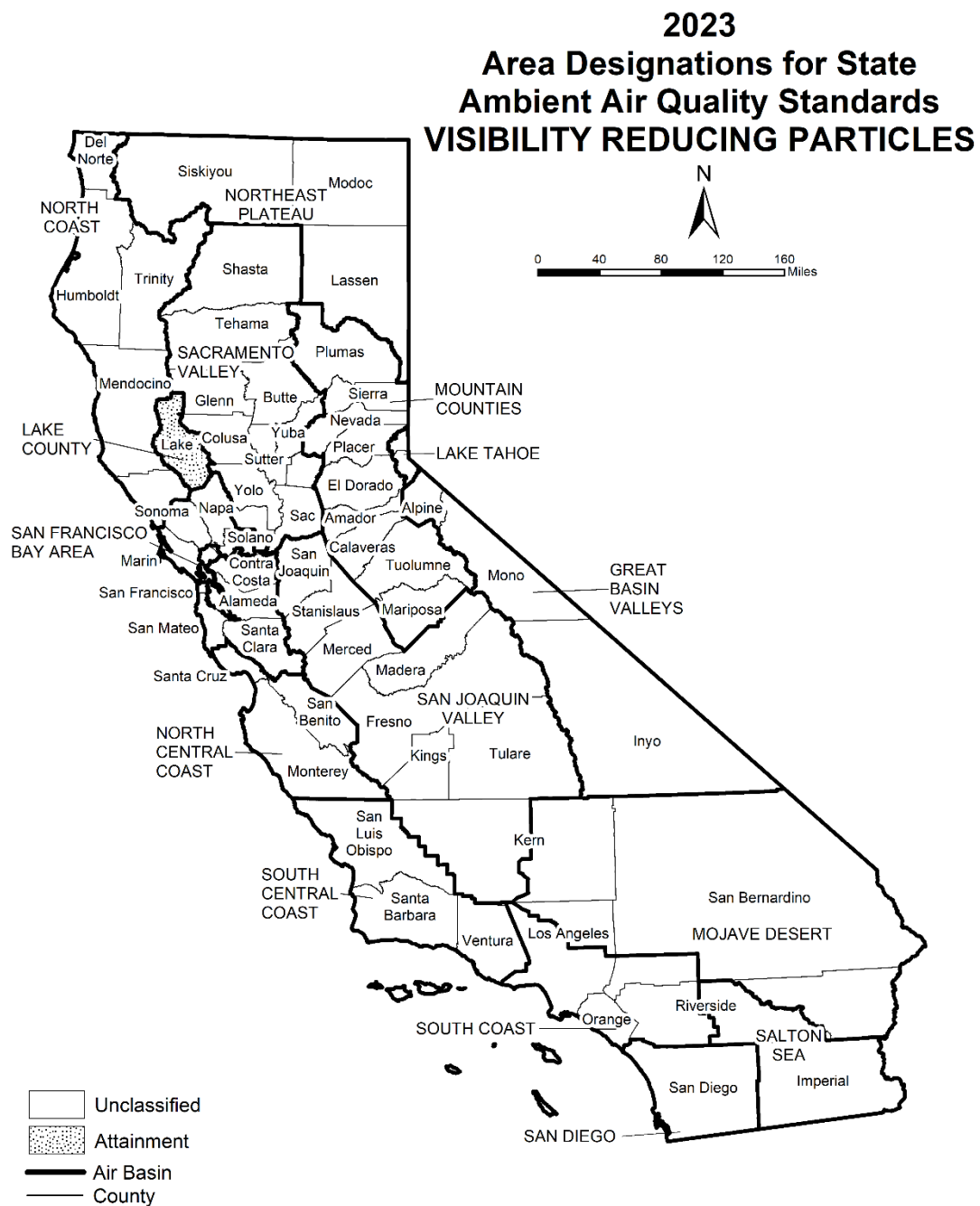
Area	N	NA-T	U	A
NORTH CENTRAL COAST AIR BASIN			U	
NORTH COAST AIR BASIN				
Del Norte County			U	
Humboldt County				A
Mendocino County			U	
Sonoma County (portion)				
- Geyser Geothermal Area <sup>2</sup>				A
- Remainder of County			U	
Trinity County			U	
NORTHEAST PLATEAU AIR BASIN			U	
SACRAMENTO 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

<sup>1</sup> 52 Federal Register 29384 (August 7, 1987)

<sup>2</sup> 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<sub>10</sub>)*. The U.S. EPA uses three categories to designate areas with respect to PM<sub>10</sub>:

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

*Ozone, Fine Suspended Particulate Matter (PM<sub>2.5</sub>), Carbon Monoxide (CO), and Nitrogen Dioxide (NO<sub>2</sub>)*. 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<sub>2.5</sub> standard of 12.0 µg/m<sup>3</sup>. 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<sup>3</sup> as well as the 24-hour standard of 35 µg/m<sup>3</sup>, revised in 2006.

On January 22, 2010, the U.S. EPA established a new national 1-hour NO<sub>2</sub> standard of 100 parts per billion (ppb) and retained the annual average standard of 53 ppb. Designations for the primary NO<sub>2</sub> standard became effective on February 29, 2012. All areas of California meet this standard.

*Sulfur Dioxide (SO<sub>2</sub>)*. 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).

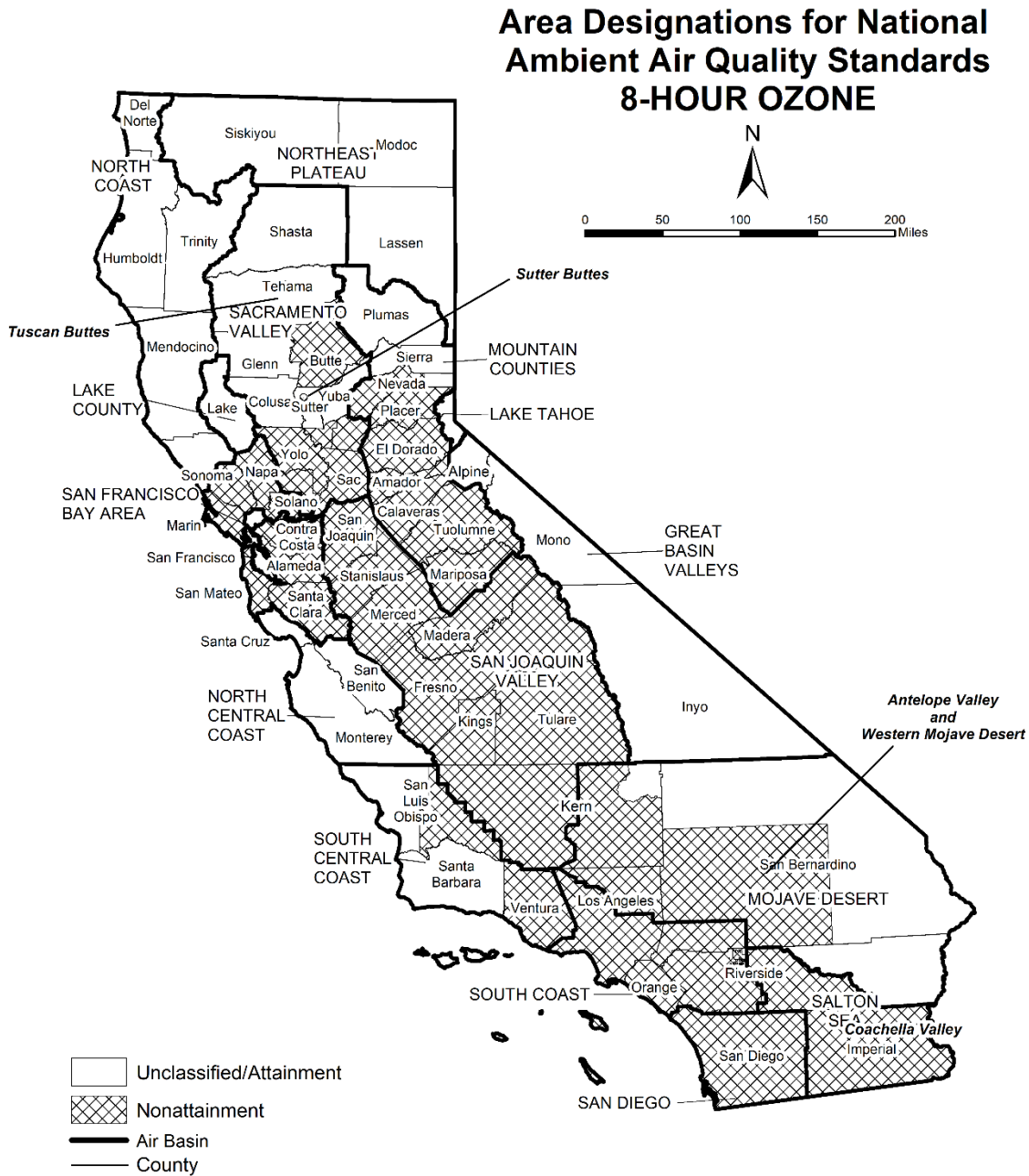
On June 2, 2010, the U.S. EPA established a new primary 1-hour SO<sub>2</sub> standard of 75 parts per billion (ppb). At the same time, U.S. EPA revoked the 24-hour and annual average standards. Area designations for the 1-hour SO<sub>2</sub> standard were finalized on December 21, 2017 and are reflected 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 µg/m<sup>3</sup>. 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](https://ecfr.io/Title-40/se40.20.81_1305)

**Figure 11**



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) <sup>1</sup>	N	
Mariposa County	N	
Nevada County		
- Western Nevada County	N	
- Remainder of County		U/A
Placer County (portion) <sup>1</sup>	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 <sup>1</sup>	N	
Shasta County		U/A
Sutter County		
- Sutter Buttes	N	
- Southern portion of Sutter County <sup>1</sup>	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 <sup>1</sup>	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 <sup>2</sup>		
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 <sup>2</sup>		U/A
SOUTH COAST AIR BASIN <sup>2</sup>	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.

<sup>1</sup> 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.

<sup>2</sup> South Central Coast Air Basin Channel Islands:

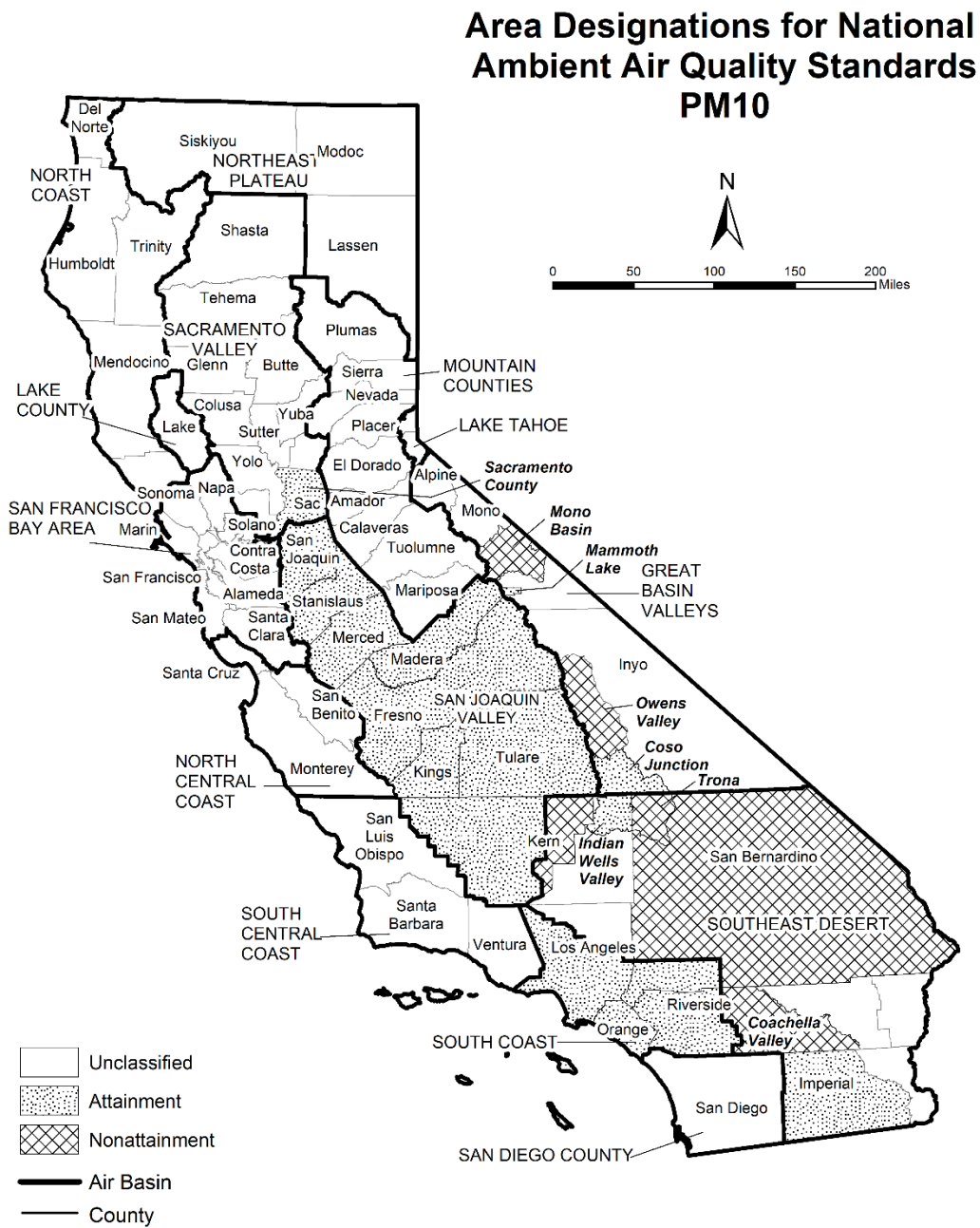
Santa Barbara County includes Santa Cruz, San Miguel, Santa Rosa, and Santa Barbara Islands.

Ventura County includes Anacapa and San Nicolas Islands.

South Coast Air Basin:

Los Angeles County includes San Clemente and Santa Catalina Islands.

**Figure 12**



Last Updated: November 2023  
Air Quality Planning and Science Division

**Table 12**  
**National Ambient Air Quality Standards Area Designations for**  
**Suspended Particulate Matter (PM<sub>10</sub>)\***

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 <sup>1</sup>			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 <sup>2</sup>			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.

<sup>1</sup> Air quality in Sacramento County meets the national PM<sub>10</sub> standards. The request for redesignation to attainment was approved by U.S. EPA in September 2013.

<sup>2</sup> 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**



Last Updated: November 2023  
Air Quality Planning and Science Division

**Table 13**  
**National Ambient Air Quality Standards Area Designations for**  
**Fine Particulate Matter (PM<sub>2.5</sub>)**

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 <sup>1</sup>	N	
Remainder of Air Basin		U/A

Area	N	U/A
SAN DIEGO COUNTY		U/A
SAN FRANCISCO BAY AREA AIR BASIN <sup>2</sup>	N	
SAN JOAQUIN VALLEY AIR BASIN	N	
SOUTH CENTRAL COAST AIR BASIN		U/A
SOUTH COAST AIR BASIN <sup>3</sup>	N	
SOUTHEAST DESERT AIR BASIN		
Imperial County (portion) <sup>4</sup>	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<sub>2.5</sub> standard as well as the 1997 and 2012 PM<sub>2.5</sub> annual standards.

<sup>1</sup> 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<sub>2.5</sub> standards. A Determination of Attainment for the 2006 24-hour PM<sub>2.5</sub> standard was made by U.S. EPA in June 2017.

<sup>2</sup> Air quality in this area meets the national PM<sub>2.5</sub> standards. A Determination of Attainment for the 2006 24-hour PM<sub>2.5</sub> standard was made by U.S. EPA in June 2017.

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

<sup>4</sup> 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<sub>2.5</sub> standards. A Determination of Attainment for the 2006 24-hour PM<sub>2.5</sub> standard was made by U.S. EPA in June 2017.

**Figure 14**



Last Updated: November 2023  
Air Quality Planning and Science Division

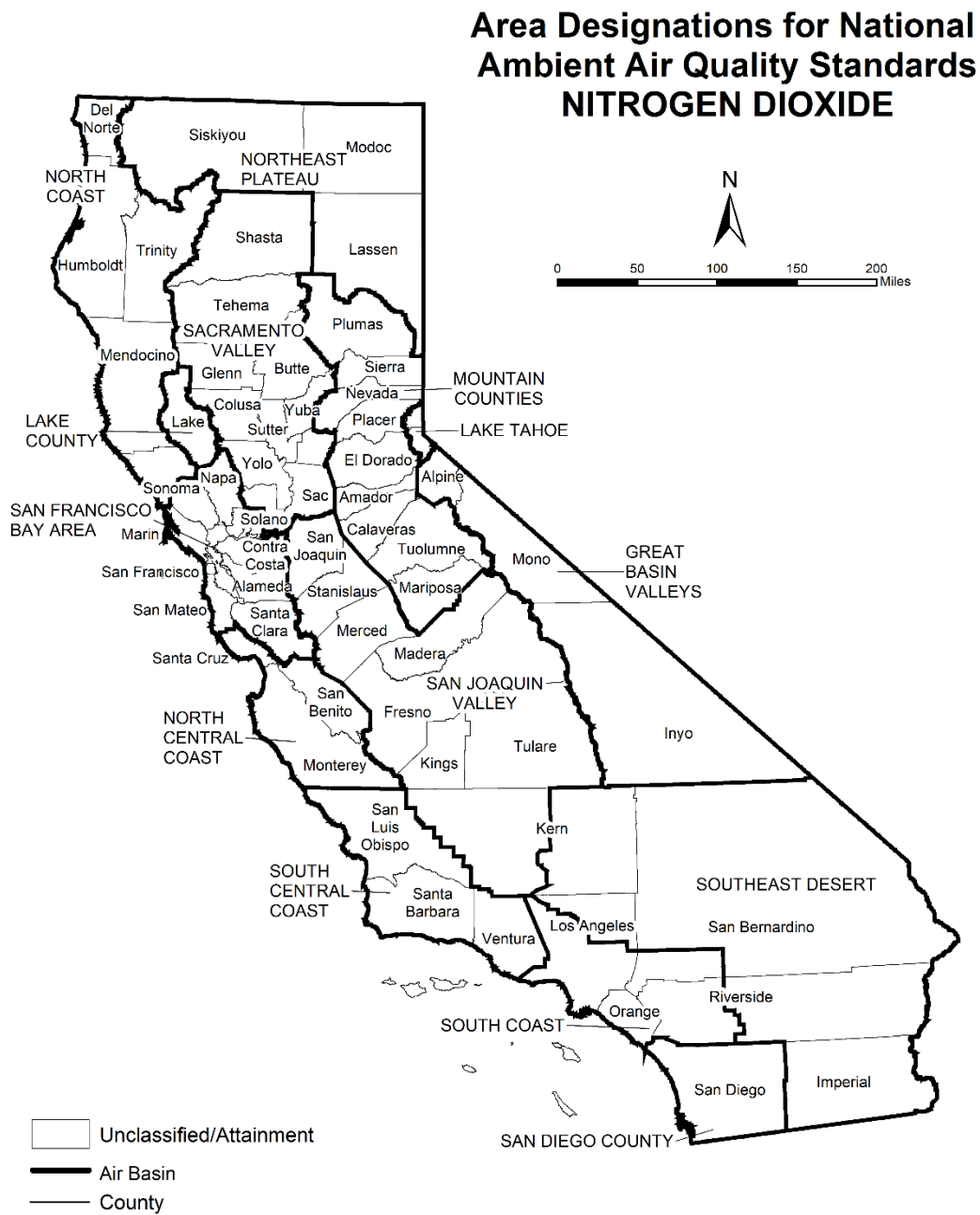
**Table 14**  
**National Ambient Air Quality Standards Area Designations for**  
**Carbon Monoxide\***

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**



Last Updated: November 2023  
Air Quality Planning and Science Division

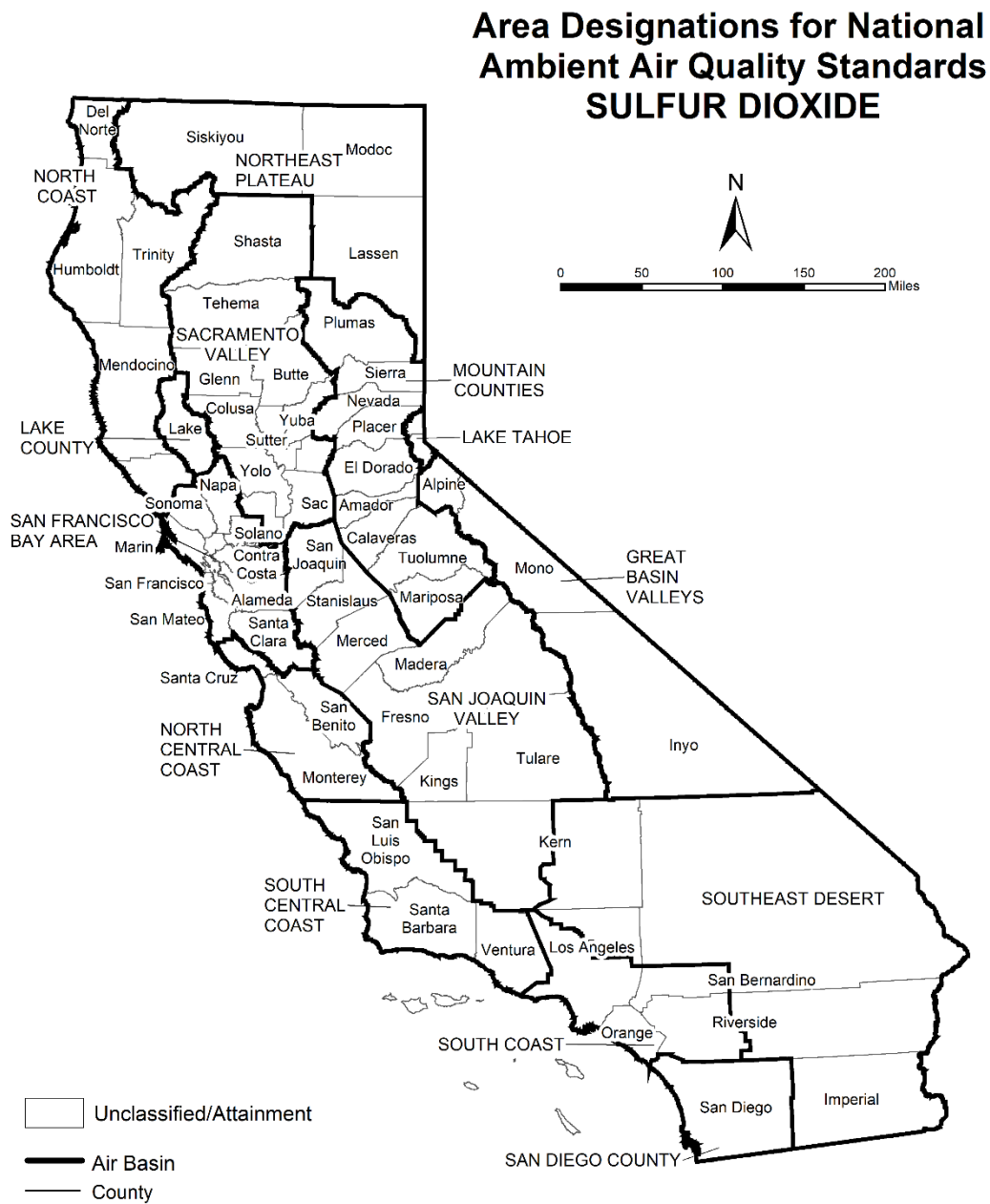
**Table 15**  
**National Ambient Air Quality Standards Area Designations for**  
**Nitrogen Dioxide\***

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 <sup>1</sup>		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<sub>2</sub> standard of 75 ppb.

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<sup>1</sup> 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**



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) <sup>1</sup>	N	
Remainder of Air Basin		U/A
SOUTHEAST DESERT AIR BASIN		U/A

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<sup>1</sup> Portion of County in Air Basin, not including Channel Islands

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## **APPENDIX 3.1:**

### **CALEEMOD EMISSIONS MODEL OUTPUTS**

# 15092 - Seneca Road Detailed Report

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4.4.1. Unmitigated

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# 1. Basic Project Information

## 1.1. Basic Project Information

Data Field	Value
Project Name	15092 - Seneca Road
Construction Start Date	4/1/2025
Operational Year	2026
Lead Agency	—
Land Use Scale	Project/site
Analysis Level for Defaults	County
Windspeed (m/s)	2.80
Precipitation (days)	1.40
Location	34.51325, -117.402923
County	San Bernardino-Mojave Desert
City	Adelanto
Air District	Mojave Desert AQMD
Air Basin	Mojave Desert
TAZ	5180
EDFZ	10
Electric Utility	Southern California Edison
Gas Utility	Southwest Gas Corp.
App Version	2022.1.1.21

## 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
------------------	------	------	-------------	-----------------------	------------------------	--------------------------------	------------	-------------

Strip Mall	4.70	1000sqft	0.11	4,700	43,992	—	—	—
General Office Building	4.70	1000sqft	0.11	4,700	0.00	—	—	—
Parking Lot	68.0	Space	0.78	0.00	0.00	—	—	RV Parking
Industrial Park	139	1000sqft	3.19	139,000	0.00	—	—	Self Storage
Parking Lot	59.0	Space	0.53	0.00	0.00	—	—	—
Other Asphalt Surfaces	4.03	Acre	4.03	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.	4.93	4.15	37.6	33.9	0.05	1.93	5.90	7.83	1.78	2.74	4.52	—	5,815	5,815	0.23	0.14	5.10	5,840
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	2.93	23.2	20.1	30.4	0.05	0.77	1.34	2.11	0.71	0.32	1.03	—	6,098	6,098	0.19	0.17	0.15	6,153
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	1.34	3.23	9.17	14.1	0.02	0.39	0.92	1.31	0.36	0.32	0.69	—	3,118	3,118	0.09	0.10	1.48	3,153
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Unmit.	0.24	0.59	1.67	2.57	< 0.005	0.07	0.17	0.24	0.07	0.06	0.13	—	516	516	0.02	0.02	0.25	522
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## 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	4.93	4.15	37.6	33.9	0.05	1.93	5.90	7.83	1.78	2.74	4.52	—	5,815	5,815	0.23	0.14	5.10	5,840
2026	1.73	1.47	11.6	19.1	0.03	0.42	0.98	1.40	0.39	0.24	0.62	—	4,163	4,163	0.14	0.14	4.63	4,214
Daily - Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.78	1.51	12.4	17.9	0.03	0.48	0.98	1.46	0.44	0.24	0.68	—	4,093	4,093	0.15	0.14	0.13	4,139
2026	2.93	23.2	20.1	30.4	0.05	0.77	1.34	2.11	0.71	0.32	1.03	—	6,098	6,098	0.19	0.17	0.15	6,153
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	1.22	1.03	8.73	10.8	0.02	0.39	0.92	1.31	0.36	0.32	0.69	—	2,224	2,224	0.08	0.06	0.92	2,245
2026	1.34	3.23	9.17	14.1	0.02	0.33	0.74	1.07	0.31	0.18	0.49	—	3,118	3,118	0.09	0.10	1.48	3,153
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
2025	0.22	0.19	1.59	1.97	< 0.005	0.07	0.17	0.24	0.07	0.06	0.13	—	368	368	0.01	0.01	0.15	372
2026	0.24	0.59	1.67	2.57	< 0.005	0.06	0.13	0.20	0.06	0.03	0.09	—	516	516	0.02	0.02	0.25	522

## 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.	5.00	8.02	4.02	33.9	0.07	0.14	5.01	5.15	0.13	1.27	1.41	162	10,029	10,190	16.9	0.45	33.8	10,782
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.42	6.53	4.19	21.7	0.06	0.13	5.01	5.14	0.13	1.27	1.40	162	9,471	9,633	16.9	0.46	13.5	10,208
Average Daily (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	3.63	6.72	3.92	24.0	0.06	0.13	4.43	4.55	0.12	1.12	1.25	162	8,946	9,108	16.9	0.43	20.9	9,681
Annual (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Unmit.	0.66	1.23	0.72	4.38	0.01	0.02	0.81	0.83	0.02	0.20	0.23	26.8	1,481	1,508	2.80	0.07	3.46	1,603

## 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	3.74	3.51	2.90	26.6	0.06	0.05	5.01	5.06	0.04	1.27	1.32	—	6,074	6,074	0.22	0.26	20.8	6,179
Area	1.15	4.46	0.05	6.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.5	26.5	< 0.005	< 0.005	—	26.6
Energy	0.12	0.06	1.07	0.90	0.01	0.08	—	0.08	0.08	—	0.08	—	3,742	3,742	0.35	0.03	—	3,760
Water	—	—	—	—	—	—	—	—	—	—	—	63.9	186	250	6.57	0.16	—	461
Waste	—	—	—	—	—	—	—	—	—	—	—	97.9	0.00	97.9	9.79	0.00	—	343
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.0	13.0
Total	5.00	8.02	4.02	33.9	0.07	0.14	5.01	5.15	0.13	1.27	1.41	162	10,029	10,190	16.9	0.45	33.8	10,782
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	3.30	3.07	3.12	20.8	0.05	0.05	5.01	5.06	0.04	1.27	1.32	—	5,543	5,543	0.23	0.27	0.54	5,632

Area	—	3.40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Energy	0.12	0.06	1.07	0.90	0.01	0.08	—	0.08	0.08	—	0.08	—	3,742	3,742	0.35	0.03	—	3,760
Water	—	—	—	—	—	—	—	—	—	—	—	63.9	186	250	6.57	0.16	—	461
Waste	—	—	—	—	—	—	—	—	—	—	—	97.9	0.00	97.9	9.79	0.00	—	343
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.0	13.0
Total	3.42	6.53	4.19	21.7	0.06	0.13	5.01	5.14	0.13	1.27	1.40	162	9,471	9,633	16.9	0.46	13.5	10,208
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	2.94	2.74	2.83	19.9	0.05	0.04	4.43	4.47	0.04	1.12	1.16	—	5,005	5,005	0.21	0.25	7.92	5,091
Area	0.57	3.92	0.03	3.18	< 0.005	0.01	—	0.01	< 0.005	—	< 0.005	—	13.1	13.1	< 0.005	< 0.005	—	13.1
Energy	0.12	0.06	1.07	0.90	0.01	0.08	—	0.08	0.08	—	0.08	—	3,742	3,742	0.35	0.03	—	3,760
Water	—	—	—	—	—	—	—	—	—	—	—	63.9	186	250	6.57	0.16	—	461
Waste	—	—	—	—	—	—	—	—	—	—	—	97.9	0.00	97.9	9.79	0.00	—	343
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.0	13.0
Total	3.63	6.72	3.92	24.0	0.06	0.13	4.43	4.55	0.12	1.12	1.25	162	8,946	9,108	16.9	0.43	20.9	9,681
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Mobile	0.54	0.50	0.52	3.64	0.01	0.01	0.81	0.82	0.01	0.20	0.21	—	829	829	0.03	0.04	1.31	843
Area	0.10	0.72	< 0.005	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.17	2.17	< 0.005	< 0.005	—	2.17
Energy	0.02	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	620	620	0.06	0.01	—	623
Water	—	—	—	—	—	—	—	—	—	—	—	10.6	30.8	41.4	1.09	0.03	—	76.3
Waste	—	—	—	—	—	—	—	—	—	—	—	16.2	0.00	16.2	1.62	0.00	—	56.7
Refrig.	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.15	2.15
Total	0.66	1.23	0.72	4.38	0.01	0.02	0.81	0.83	0.02	0.20	0.23	26.8	1,481	1,508	2.80	0.07	3.46	1,603

### 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.24	0.20	1.85	1.60	< 0.005	0.10	—	0.10	0.09	—	0.09	—	273	273	0.01	< 0.005	—	274
Dust From Material Movement	—	—	—	—	—	—	0.28	0.28	—	0.13	0.13	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.04	0.04	0.34	0.29	< 0.005	0.02	—	0.02	0.02	—	0.02	—	45.1	45.1	< 0.005	< 0.005	—	45.3
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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.10	0.10	0.08	1.45	0.00	0.00	0.23	0.23	0.00	0.05	0.05	—	255	255	0.01	0.01	0.93	259
Vendor	< 0.005	< 0.005	0.03	0.01	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	31.9	31.9	< 0.005	< 0.005	0.09	33.2
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.05	0.00	0.00	0.01	0.01	0.00	< 0.005	< 0.005	—	11.5	11.5	< 0.005	< 0.005	0.02	11.6
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.57	1.57	< 0.005	< 0.005	< 0.005	1.64
Hauling	0.00	0.00	0.00	0.00	0.00	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	—	1.90	1.90	< 0.005	< 0.005	< 0.005	1.93
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	0.26	0.26	< 0.005	< 0.005	< 0.005	0.27
Hauling	0.00	0.00	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	2.73	2.30	20.6	19.6	0.03	1.15	—	1.15	1.05	—	1.05	—	3,134	3,134	0.13	0.03	—	3,145
Dust From Material Movement	—	—	—	—	—	—	2.26	2.26	—	0.94	0.94	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.27	0.23	2.04	1.93	< 0.005	0.11	—	0.11	0.10	—	0.10	—	309	309	0.01	< 0.005	—	310
Dust From Material Movement	—	—	—	—	—	—	0.22	0.22	—	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	0.05	0.04	0.37	0.35	< 0.005	0.02	—	0.02	0.02	—	0.02	—	51.2	51.2	< 0.005	< 0.005	—	51.4
Dust From Material Movement	—	—	—	—	—	—	0.04	0.04	—	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	0.09	0.08	0.07	1.25	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	219	219	0.01	0.01	0.80	222

Vendor	< 0.005	< 0.005	0.06	0.03	< 0.005	< 0.005	0.02	0.02	< 0.005	< 0.005	0.01	—	63.7	63.7	< 0.005	0.01	0.17	66.4
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.01	0.01	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.7	19.7	< 0.005	< 0.005	0.03	19.9
Vendor	< 0.005	< 0.005	0.01	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	6.29	6.29	< 0.005	< 0.005	0.01	6.55
Hauling	0.00	0.00	0.00	0.00	0.00	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	—	3.26	3.26	< 0.005	< 0.005	0.01	3.30
Vendor	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	1.04	1.04	< 0.005	< 0.005	< 0.005	1.08
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.5. Building Construction (2025) - Unmitigated

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	1.45	1.21	11.3	14.1	0.03	0.47	—	0.47	0.43	—	0.43	—	2,630	2,630	0.11	0.02	—	2,639
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	1.45	1.21	11.3	14.1	0.03	0.47	—	0.47	0.43	—	0.43	—	2,630	2,630	0.11	0.02	—	2,639

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	0.56	0.47	4.41	5.51	0.01	0.18	—	0.18	0.17	—	0.17	—	1,024	1,024	0.04	0.01	—	1,028
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	0.10	0.09	0.80	1.01	< 0.005	0.03	—	0.03	0.03	—	0.03	—	170	170	0.01	< 0.005	—	170
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	0.37	0.34	0.30	5.10	0.00	0.00	0.80	0.80	0.00	0.19	0.19	—	895	895	0.04	0.03	3.27	909
Vendor	0.03	0.03	0.68	0.30	0.01	0.01	0.18	0.19	0.01	0.05	0.06	—	669	669	< 0.005	0.09	1.83	698
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.31	0.27	0.33	3.42	0.00	0.00	0.80	0.80	0.00	0.19	0.19	—	793	793	0.04	0.03	0.08	803
Vendor	0.03	0.02	0.72	0.30	0.01	0.01	0.18	0.19	0.01	0.05	0.06	—	670	670	< 0.005	0.09	0.05	696
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.12	0.11	0.14	1.49	0.00	0.00	0.31	0.31	0.00	0.07	0.07	—	318	318	0.02	0.01	0.55	322
Vendor	0.01	0.01	0.28	0.12	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	261	261	< 0.005	0.03	0.31	271
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Worker	0.02	0.02	0.03	0.27	0.00	0.00	0.06	0.06	0.00	0.01	0.01	—	52.6	52.6	< 0.005	< 0.005	0.09	53.4
Vendor	< 0.005	< 0.005	0.05	0.02	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	< 0.005	—	43.1	43.1	< 0.005	0.01	0.05	44.9
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	1.38	1.16	10.7	14.1	0.03	0.41	—	0.41	0.38	—	0.38	—	2,630	2,630	0.11	0.02	—	2,639
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	1.38	1.16	10.7	14.1	0.03	0.41	—	0.41	0.38	—	0.38	—	2,630	2,630	0.11	0.02	—	2,639
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	0.98	0.82	7.60	10.0	0.02	0.29	—	0.29	0.27	—	0.27	—	1,873	1,873	0.08	0.02	—	1,880
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.18	0.15	1.39	1.83	< 0.005	0.05	—	0.05	0.05	—	0.05	—	310	310	0.01	< 0.005	—	311

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	0.27	4.74	0.00	0.00	0.80	0.80	0.00	0.19	0.19	—	878	878	0.04	0.03	2.97	891
Vendor	0.03	0.03	0.65	0.28	0.01	0.01	0.18	0.19	0.01	0.05	0.06	—	656	656	< 0.005	0.09	1.65	684
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.29	0.26	0.30	3.15	0.00	0.00	0.80	0.80	0.00	0.19	0.19	—	777	777	0.01	0.03	0.08	787
Vendor	0.03	0.02	0.69	0.29	0.01	0.01	0.18	0.19	0.01	0.05	0.06	—	657	657	< 0.005	0.09	0.04	683
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.21	0.19	0.23	2.53	0.00	0.00	0.57	0.57	0.00	0.13	0.13	—	570	570	0.01	0.02	0.91	578
Vendor	0.02	0.02	0.49	0.20	< 0.005	0.01	0.13	0.13	0.01	0.04	0.04	—	467	467	< 0.005	0.06	0.51	487
Hauling	0.00	0.00	0.00	0.00	0.00	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	0.04	0.03	0.04	0.46	0.00	0.00	0.10	0.10	0.00	0.02	0.02	—	94.4	94.4	< 0.005	< 0.005	0.15	95.6
Vendor	< 0.005	< 0.005	0.09	0.04	< 0.005	< 0.005	0.02	0.02	< 0.005	0.01	0.01	—	77.4	77.4	< 0.005	0.01	0.08	80.6
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.9. Paving (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	0.91	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	—	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	0.72	1.01	< 0.005	0.03	—	0.03	0.03	—	0.03	—	153	153	0.01	< 0.005	—	154
Paving	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	0.02	0.01	0.13	0.18	< 0.005	0.01	—	0.01	0.01	—	0.01	—	25.4	25.4	< 0.005	< 0.005	—	25.4
Paving	—	0.01	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.07	0.06	0.07	0.77	0.00	0.00	0.20	0.20	0.00	0.05	0.05	—	190	190	< 0.005	0.01	0.02	192
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.09	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	19.8	19.8	< 0.005	< 0.005	0.03	20.1
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.02	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	3.28	3.28	< 0.005	< 0.005	0.01	3.32
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00

### 3.11. Architectural Coating (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	0.19	0.16	1.14	1.51	< 0.005	0.03	—	0.03	0.03	—	0.03	—	178	178	0.01	< 0.005	—	179
Architect ural Coatings	—	20.3	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Average Daily	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Off-Road Equipment	0.02	0.02	0.12	0.15	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	18.0	18.0	< 0.005	< 0.005	—	18.1
Architectural Coatings	—	2.06	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Off-Road Equipment	< 0.005	< 0.005	0.02	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.99	2.99	< 0.005	< 0.005	—	3.00
Architectural Coatings	—	0.38	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Onsite truck	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Offsite	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	0.06	0.05	0.06	0.63	0.00	0.00	0.16	0.16	0.00	0.04	0.04	—	155	155	< 0.005	0.01	0.02	157
Vendor	0.00	0.00	0.00	0.00	0.00	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	0.01	0.07	0.00	0.00	0.02	0.02	0.00	< 0.005	< 0.005	—	16.2	16.2	< 0.005	< 0.005	0.03	16.4
Vendor	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Hauling	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	0.00	0.00	0.00	0.00
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Worker	< 0.005	< 0.005	< 0.005	0.01	0.00	0.00	< 0.005	< 0.005	0.00	< 0.005	< 0.005	—	2.69	2.69	< 0.005	< 0.005	< 0.005	2.72

Vendor	0.00	0.00	0.00	0.00	0.00	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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	1.25	1.18	0.86	7.74	0.02	0.01	1.40	1.41	0.01	0.36	0.37	—	1,708	1,708	0.07	0.08	5.80	1,738
General Office Building	0.35	0.33	0.29	2.67	0.01	< 0.005	0.51	0.52	< 0.005	0.13	0.13	—	619	619	0.02	0.03	2.12	630
Parking Lot	0.85	0.80	0.70	6.45	0.01	0.01	1.24	1.25	0.01	0.31	0.32	—	1,494	1,494	0.05	0.06	5.12	1,520
Industrial Park	1.29	1.20	1.05	9.72	0.02	0.02	1.86	1.88	0.02	0.47	0.49	—	2,253	2,253	0.08	0.10	7.72	2,291
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	3.74	3.51	2.90	26.6	0.06	0.05	5.01	5.06	0.04	1.27	1.32	—	6,074	6,074	0.22	0.26	20.8	6,179
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	1.10	1.03	0.92	6.18	0.02	0.01	1.40	1.41	0.01	0.36	0.37	—	1,559	1,559	0.07	0.08	0.15	1,585

General Office Building	0.31	0.29	0.31	2.08	0.01	< 0.005	0.51	0.52	< 0.005	0.13	0.13	—	565	565	0.02	0.03	0.06	574
Parking Lot	0.76	0.70	0.75	5.02	0.01	0.01	1.24	1.25	0.01	0.31	0.32	—	1,363	1,363	0.05	0.07	0.13	1,385
Industrial Park	1.14	1.06	1.14	7.56	0.02	0.02	1.86	1.88	0.02	0.47	0.49	—	2,055	2,055	0.08	0.10	0.20	2,088
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	3.30	3.07	3.12	20.8	0.05	0.05	5.01	5.06	0.04	1.27	1.32	—	5,543	5,543	0.23	0.27	0.54	5,632
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	0.18	0.17	0.15	1.07	< 0.005	< 0.005	0.22	0.23	< 0.005	0.06	0.06	—	232	232	0.01	0.01	0.36	236
General Office Building	0.04	0.04	0.04	0.31	< 0.005	< 0.005	0.07	0.07	< 0.005	0.02	0.02	—	71.0	71.0	< 0.005	< 0.005	0.11	72.3
Parking Lot	0.14	0.13	0.14	0.99	< 0.005	< 0.005	0.23	0.23	< 0.005	0.06	0.06	—	231	231	0.01	0.01	0.37	235
Industrial Park	0.18	0.16	0.18	1.27	< 0.005	< 0.005	0.29	0.29	< 0.005	0.07	0.08	—	295	295	0.01	0.01	0.47	300
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	0.54	0.50	0.52	3.64	0.01	0.01	0.81	0.82	0.01	0.20	0.21	—	829	829	0.03	0.04	1.31	843

## 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	43.4	43.4	< 0.005	< 0.005	—	43.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	77.8	77.8	0.01	< 0.005	—	78.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	47.4	47.4	< 0.005	< 0.005	—	47.7
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	2,301	2,301	0.22	0.03	—	2,314
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,469	2,469	0.24	0.03	—	2,484
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	43.4	43.4	< 0.005	< 0.005	—	43.6
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	77.8	77.8	0.01	< 0.005	—	78.3
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	47.4	47.4	< 0.005	< 0.005	—	47.7
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	2,301	2,301	0.22	0.03	—	2,314
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	2,469	2,469	0.24	0.03	—	2,484
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	7.18	7.18	< 0.005	< 0.005	—	7.22

General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	12.9	12.9	< 0.005	< 0.005	—	13.0
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	—	7.86	7.86	< 0.005	< 0.005	—	7.90
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	381	381	0.04	< 0.005	—	383
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	—	409	409	0.04	< 0.005	—	411

#### 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.88	8.88	< 0.005	< 0.005	—	8.90
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	41.3	41.3	< 0.005	< 0.005	—	41.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	0.11	0.06	1.02	0.86	0.01	0.08	—	0.08	0.08	—	0.08	—	1,222	1,222	0.11	< 0.005	—	1,226
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	0.12	0.06	1.07	0.90	0.01	0.08	—	0.08	0.08	—	0.08	—	1,273	1,273	0.11	< 0.005	—	1,276
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

Strip Mall	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	8.88	8.88	< 0.005	< 0.005	—	8.90
General Office Building	< 0.005	< 0.005	0.03	0.03	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	41.3	41.3	< 0.005	< 0.005	—	41.4
Parking Lot	0.00	0.00	0.00	0.00	0.00	0.00	—	0.00	0.00	—	0.00	—	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	0.11	0.06	1.02	0.86	0.01	0.08	—	0.08	0.08	—	0.08	—	1,222	1,222	0.11	< 0.005	—	1,226
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	0.12	0.06	1.07	0.90	0.01	0.08	—	0.08	0.08	—	0.08	—	1,273	1,273	0.11	< 0.005	—	1,276
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	1.47	1.47	< 0.005	< 0.005	—	1.47
General Office Building	< 0.005	< 0.005	0.01	0.01	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	6.84	6.84	< 0.005	< 0.005	—	6.86
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
Industrial Park	0.02	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	202	202	0.02	< 0.005	—	203
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	0.02	0.01	0.19	0.16	< 0.005	0.01	—	0.01	0.01	—	0.01	—	211	211	0.02	< 0.005	—	211

### 4.3. Area Emissions by Source

#### 4.3.1. Unmitigated

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

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

Daily, Summer (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	3.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	1.15	1.06	0.05	6.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.5	26.5	< 0.005	< 0.005	—	26.6
Total	1.15	4.46	0.05	6.45	< 0.005	0.01	—	0.01	0.01	—	0.01	—	26.5	26.5	< 0.005	< 0.005	—	26.6
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	3.19	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.21	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Total	—	3.40	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Consumer Products	—	0.58	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Architectural Coatings	—	0.04	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Landscape Equipment	0.10	0.10	< 0.005	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.17	2.17	< 0.005	< 0.005	—	2.17
Total	0.10	0.72	< 0.005	0.58	< 0.005	< 0.005	—	< 0.005	< 0.005	—	< 0.005	—	2.17	2.17	< 0.005	< 0.005	—	2.17

## 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.67	5.82	6.48	0.07	< 0.005	—	8.71
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.60	4.56	6.16	0.16	< 0.005	—	11.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	61.6	176	237	6.33	0.15	—	441
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	63.9	186	250	6.57	0.16	—	461
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.67	5.82	6.48	0.07	< 0.005	—	8.71
General Office Building	—	—	—	—	—	—	—	—	—	—	—	1.60	4.56	6.16	0.16	< 0.005	—	11.5
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	61.6	176	237	6.33	0.15	—	441

Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	63.9	186	250	6.57	0.16	—	461
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.11	0.96	1.07	0.01	< 0.005	—	1.44
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.27	0.76	1.02	0.03	< 0.005	—	1.90
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	10.2	29.1	39.3	1.05	0.03	—	73.0
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	10.6	30.8	41.4	1.09	0.03	—	76.3

## 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.66	0.00	2.66	0.27	0.00	—	9.31
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.36	0.00	2.36	0.24	0.00	—	8.24
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00

Industrial Park	—	—	—	—	—	—	—	—	—	—	—	92.9	0.00	92.9	9.28	0.00	—	325
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	97.9	0.00	97.9	9.79	0.00	—	343
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	2.66	0.00	2.66	0.27	0.00	—	9.31
General Office Building	—	—	—	—	—	—	—	—	—	—	—	2.36	0.00	2.36	0.24	0.00	—	8.24
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	92.9	0.00	92.9	9.28	0.00	—	325
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	97.9	0.00	97.9	9.79	0.00	—	343
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	0.44	0.00	0.44	0.04	0.00	—	1.54
General Office Building	—	—	—	—	—	—	—	—	—	—	—	0.39	0.00	0.39	0.04	0.00	—	1.36
Parking Lot	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	15.4	0.00	15.4	1.54	0.00	—	53.8
Other Asphalt Surfaces	—	—	—	—	—	—	—	—	—	—	—	0.00	0.00	0.00	0.00	0.00	—	0.00
Total	—	—	—	—	—	—	—	—	—	—	—	16.2	0.00	16.2	1.62	0.00	—	56.7

## 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)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.0	13.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.0	13.0
Daily, Winter (Max)	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.0	13.0
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	13.0	13.0
Annual	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
Strip Mall	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005
General Office Building	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	< 0.005	< 0.005

Industrial Park	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.15	2.15
Total	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	2.15	2.15

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)

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

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

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

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

#### 4.10.3. Avoided and Sequestered Emissions by Species - Unmitigated

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

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

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

Remove d	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
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	4/1/2025	4/24/2025	5.00	18.0	10
Grading	Grading	4/25/2025	6/13/2025	5.00	36.0	20
Building Construction	Building Construction	6/16/2025	12/30/2026	5.00	403	230
Paving	Paving	11/10/2026	12/30/2026	5.00	37.0	20
Architectural Coating	Architectural Coating	11/10/2026	12/30/2026	5.00	37.0	20

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	1.00	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	Crawler Tractors	Diesel	Average	3.00	8.00	87.0	0.43
Building Construction	Cranes	Diesel	Average	1.00	8.00	367	0.29
Building Construction	Forklifts	Diesel	Average	3.00	8.00	82.0	0.20

Building Construction	Generator Sets	Diesel	Average	1.00	8.00	14.0	0.74
Building Construction	Tractors/Loaders/Backhoes	Diesel	Average	3.00	8.00	84.0	0.37
Building Construction	Welders	Diesel	Average	1.00	8.00	46.0	0.45
Paving	Pavers	Diesel	Average	2.00	8.00	81.0	0.42
Paving	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	1.00	10.2	HHDT,MHDT
Site Preparation	Hauling	0.00	20.0	HHDT
Site Preparation	Onsite truck	—	—	HHDT
Grading	—	—	—	—
Grading	Worker	15.0	18.5	LDA,LDT1,LDT2
Grading	Vendor	2.00	10.2	HHDT,MHDT
Grading	Hauling	0.00	20.0	HHDT
Grading	Onsite truck	—	—	HHDT
Building Construction	—	—	—	—
Building Construction	Worker	61.4	18.5	LDA,LDT1,LDT2
Building Construction	Vendor	21.0	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	12.3	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	0.00	0.00	222,600	74,200	13,970

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	—	—	63.0	0.00	—
Grading	—	—	90.0	0.00	—
Paving	0.00	0.00	0.00	0.00	5.34

### 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
Strip Mall	0.00	0%
General Office Building	0.00	0%
Parking Lot	0.78	100%
Industrial Park	0.00	0%
Parking Lot	0.53	100%
Other Asphalt Surfaces	4.03	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	349	0.03	< 0.005
2026	0.00	346	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
Strip Mall	256	198	96.0	82,030	1,985	1,533	745	636,340
General Office Building	67.6	10.4	3.29	18,346	726	112	35.3	196,949

Parking Lot	163	163	163	59,568	1,752	1,752	1,752	639,477
Industrial Park	202	246	209	76,247	2,164	2,641	2,238	818,535
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

### 5.10.2. Architectural Coatings

Residential Interior Area Coated (sq ft)	Residential Exterior Area Coated (sq ft)	Non-Residential Interior Area Coated (sq ft)	Non-Residential Exterior Area Coated (sq ft)	Parking Area Coated (sq ft)
0	0.00	222,600	74,200	13,970

### 5.10.3. Landscape Equipment

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

## 5.11. Operational Energy Consumption

### 5.11.1. Unmitigated

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

Land Use	Electricity (kWh/yr)	CO2	CH4	N2O	Natural Gas (kBTU/yr)
Strip Mall	45,723	346	0.0330	0.0040	27,709

General Office Building	82,024	346	0.0330	0.0040	128,968
Parking Lot	29,764	346	0.0330	0.0040	0.00
Industrial Park	2,425,812	346	0.0330	0.0040	3,814,162
Parking Lot	20,262	346	0.0330	0.0040	0.00
Other Asphalt Surfaces	0.00	346	0.0330	0.0040	0.00

## 5.12. Operational Water and Wastewater Consumption

### 5.12.1. Unmitigated

Land Use	Indoor Water (gal/year)	Outdoor Water (gal/year)
Strip Mall	348,141	973,919
General Office Building	835,349	0.00
Parking Lot	0.00	0.00
Industrial Park	32,143,750	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)
Strip Mall	4.94	—
General Office Building	4.37	—
Parking Lot	0.00	—
Industrial Park	172	—
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
Strip Mall	Other commercial A/C and heat pumps	User Defined	750	< 0.005	4.00	4.00	18.0
Strip Mall	Stand-alone retail refrigerators and freezers	User Defined	150	0.04	1.00	0.00	1.00
Strip Mall	Walk-in refrigerators and freezers	User Defined	150	< 0.005	7.50	7.50	20.0
General Office Building	Household refrigerators and/or freezers	User Defined	150	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
Industrial Park	Other commercial A/C and heat pumps	User Defined	750	0.30	4.00	4.00	18.0

## 5.15. Operational Off-Road Equipment

### 5.15.1. Unmitigated

Equipment Type	Fuel Type	Engine Tier	Number per Day	Hours Per Day	Horsepower	Load Factor
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## 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
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### 5.16.2. Process Boilers

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

Equipment Type	Fuel Type
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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
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5.18.1. Biomass Cover Type

5.18.1.1. Unmitigated

Biomass Cover Type	Initial Acres	Final Acres
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5.18.2. Sequestration

5.18.2.1. Unmitigated

Tree Type	Number	Electricity Saved (kWh/year)	Natural Gas Saved (btu/year)
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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	33.2	annual days of extreme heat
Extreme Precipitation	1.05	annual days with precipitation above 20 mm
Sea Level Rise	—	meters of inundation depth
Wildfire	0.00	annual hectares burned

Temperature and Extreme Heat data are for grid cell in which your project are located. The projection is based on the 98th historical percentile of daily maximum/minimum temperatures from observed historical data (32 climate model ensemble from Cal-Adapt, 2040–2059 average under RCP 8.5). Each grid cell is 6 kilometers (km) by 6 km, or 3.7 miles (mi) by 3.7 mi.

Extreme Precipitation data are for the grid cell in which your project are located. The threshold of 20 mm is equivalent to about  $\frac{3}{4}$  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	4	0	0	N/A
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	0	0	0	N/A
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores do not include implementation of climate risk reduction measures.

6.3. Adjusted Climate Risk Scores

Climate Hazard	Exposure Score	Sensitivity Score	Adaptive Capacity Score	Vulnerability Score
Temperature and Extreme Heat	4	1	1	4
Extreme Precipitation	N/A	N/A	N/A	N/A
Sea Level Rise	N/A	N/A	N/A	N/A
Wildfire	N/A	N/A	N/A	N/A
Flooding	N/A	N/A	N/A	N/A
Drought	1	1	1	2
Snowpack Reduction	N/A	N/A	N/A	N/A
Air Quality Degradation	N/A	N/A	N/A	N/A

The sensitivity score reflects the extent to which a project would be adversely affected by exposure to a climate hazard. Exposure is rated on a scale of 1 to 5, with a score of 5 representing the greatest exposure.

The adaptive capacity of a project refers to its ability to manage and reduce vulnerabilities from projected climate hazards. Adaptive capacity is rated on a scale of 1 to 5, with a score of 5 representing the greatest ability to adapt.

The overall vulnerability scores are calculated based on the potential impacts and adaptive capacity assessments for each hazard. Scores include implementation of climate risk reduction measures.

6.4. Climate Risk Reduction Measures

7. Health and Equity Details

7.1. CalEnviroScreen 4.0 Scores

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

Indicator	Result for Project Census Tract
Exposure Indicators	—
AQ-Ozone	88.7
AQ-PM	20.8
AQ-DPM	9.43
Drinking Water	8.47
Lead Risk Housing	35.8

Pesticides	0.00
Toxic Releases	17.6
Traffic	35.5
Effect Indicators	—
CleanUp Sites	0.00
Groundwater	0.00
Haz Waste Facilities/Generators	16.6
Impaired Water Bodies	0.00
Solid Waste	0.00
Sensitive Population	—
Asthma	87.3
Cardio-vascular	99.6
Low Birth Weights	85.6
Socioeconomic Factor Indicators	—
Education	81.1
Housing	96.0
Linguistic	52.5
Poverty	82.1
Unemployment	95.9

## 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	6.197869883
Employed	3.131015013
Median HI	16.70730142

Education	—
Bachelor's or higher	10.61208777
High school enrollment	100
Preschool enrollment	12.83202874
Transportation	—
Auto Access	76.73553189
Active commuting	20.39009367
Social	—
2-parent households	38.63723855
Voting	21.53214423
Neighborhood	—
Alcohol availability	97.0101373
Park access	2.194276915
Retail density	19.196715
Supermarket access	16.7842936
Tree canopy	2.643397921
Housing	—
Homeownership	57.6799692
Housing habitability	16.50198896
Low-inc homeowner severe housing cost burden	16.95110997
Low-inc renter severe housing cost burden	2.65622995
Uncrowded housing	22.82817914
Health Outcomes	—
Insured adults	41.85807776
Arthritis	0.0
Asthma ER Admissions	6.8
High Blood Pressure	0.0

Cancer (excluding skin)	0.0
Asthma	0.0
Coronary Heart Disease	0.0
Chronic Obstructive Pulmonary Disease	0.0
Diagnosed Diabetes	0.0
Life Expectancy at Birth	11.1
Cognitively Disabled	33.5
Physically Disabled	10.8
Heart Attack ER Admissions	0.7
Mental Health Not Good	0.0
Chronic Kidney Disease	0.0
Obesity	0.0
Pedestrian Injuries	19.6
Physical Health Not Good	0.0
Stroke	0.0
Health Risk Behaviors	—
Binge Drinking	0.0
Current Smoker	0.0
No Leisure Time for Physical Activity	0.0
Climate Change Exposures	—
Wildfire Risk	0.0
SLR Inundation Area	0.0
Children	1.3
Elderly	78.6
English Speaking	68.7
Foreign-born	41.3
Outdoor Workers	59.0

Climate Change Adaptive Capacity	—
Impervious Surface Cover	81.7
Traffic Density	49.8
Traffic Access	23.0
Other Indices	—
Hardship	92.4
Other Decision Support	—
2016 Voting	23.2

7.3. Overall Health & Equity Scores

Metric	Result for Project Census Tract
CalEnviroScreen 4.0 Score for Project Location (a)	40.0
Healthy Places Index Score for Project Location (b)	9.00
Project Located in a Designated Disadvantaged Community (Senate Bill 535)	No
Project Located in a Low-Income Community (Assembly Bill 1550)	Yes
Project Located in a Community Air Protection Program Community (Assembly Bill 617)	No

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

7.4. Health & Equity Measures

No Health & Equity Measures selected.

7.5. Evaluation Scorecard

Health & Equity Evaluation Scorecard not completed.

7.6. Health & Equity Custom Measures

No Health & Equity Custom Measures created.

8. User Changes to Default Data

Screen	Justification
Construction: Construction Phases	Taken from client data Building Construction, Paving, and Architectural Coating overlap to present a conservative analysis
Construction: Off-Road Equipment	T/L/B replaced with Crawler Tractor to accurately calculate disturbance for Site Preparation and Grading phases. Standard 8 hours work 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
Operations: Vehicle Data	Trip characteristics based on information from Trip Generation 28% Pass-by trips accounted for strip mall
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.
Land Use	Taken from site plan

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