Section 4.3
Air Quality

4.3.1 Overview

This section describes the regulatory and environmental setting for air quality, discusses local and regional air quality impacts that would result from the project and its elements, determines ~~the~~ significance of impacts, and provides mitigation measures that would reduce these impacts, where feasible. The project area is the study area for air quality. Please refer to Section 4.8, *Greenhouse Gas Emissions and Climate Change*, for a discussion of greenhouse gas (GHG) emissions. This section is based on ~~State~~ CEQA Guidelines Appendix G and the County ~~of San Diego~~ Guidelines for Determining Significance for Air Quality.

4.3.2 Existing Conditions

The project is located in the San Diego Air Basin (SDAB), which covers the entirety of ~~San Diego~~the County. The ~~San Diego~~ County Air Pollution Control District (SDAPCD) is the local agency responsible for the administration and enforcement of air quality regulations in ~~the county.~~San Diego County. Ambient air quality in the study area is affected by climatological conditions, topography, and the types of pollutants emitted and the amounts. The primary factors that influence ambient concentrations of air pollutants are the locations of emission sources and the amount of pollutants emitted from those sources. Meteorological and topographical conditions are also important—atmospheric conditions, such as wind speed, wind direction, and air temperature gradients, interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. The following discussion describes relevant characteristics of the SDAB, describes key pollutants of concern, summarizes existing ambient pollutant concentrations, and identifies sensitive receptors.

4.3.2.1 Climate and Atmospheric Conditions

Regional

The climate of ~~San Diego~~the County is classified as Mediterranean but is incredibly diverse because of the topography. The climate is dominated by the Pacific High pressure system that results in mild, dry summers and mild, wet winters. ~~San Diego~~The County experiences an average of 201 days above 70°F and 9–13 inches of rainfall annually (mostly from November through March). El Niño and La Niña patterns have large effects on the annual rainfall received in ~~San Diego~~the County (SDAPCD 2021a).

An El Niño is a warming of the surface waters of the eastern Pacific Ocean. It is a climate pattern that occurs across the tropical Pacific Ocean that is associated with drastic weather occurrences, including enhanced rainfall in Southern California. La Niña is a term for cooler than normal sea surface temperatures across the Eastern Pacific Ocean. ~~San Diego~~The County receives less than normal rainfall during La Niña years (SDAPCD 2021a).

The Pacific High drives the prevailing winds in the SDAB. The winds tend to blow onshore in the daytime and offshore at night. In the summer, an inversion layer is created over the coastal areas and increases the ozone (O_3) levels. In the winter, ~~San Diego~~the County often experiences a shallow inversion layer that tends to increase carbon monoxide (CO) and fine particulate matter ($PM_{2.5}$) concentration levels due to the increased use of residential wood burning (SDAPCD 2021a).

In the fall months, the SDAB is often impacted by Santa Ana winds. These winds are the result of a high-pressure system over the Nevada-Utah region that overcomes the westerly wind pattern and forces hot, dry winds from the east to the Pacific Ocean. These winds are powerful and incessant. They blow the air basin's pollutants out to sea. However, a weak Santa Ana can transport air pollution from the South Coast Air Basin and greatly increase the San Diego O_3 concentrations. A strong Santa Ana also primes vegetation for firestorm conditions (SDAPCD 2021a).

Local

Climate data from the Alpine monitoring station (COOP 040136) was used to characterize the varying climate conditions near the project site. According to climate data recorded from 1951 to 2016, the average annual maximum temperature in the area is 76.4°F, and the average annual minimum temperature is 50.3°F (WRRC 2021). The average precipitation in the area is approximately 16.15 inches annually. The project site is in the vicinity of the wind monitoring station at Gillespie Field Airport, which is approximately 12.4 miles west of the project site. Wind patterns at the Gillespie Field station indicate a prominence of westerly winds that average 4.4 miles per hour (CARB 2021a).

4.3.2.2 Pollutants of Concern

Criteria Pollutants

Concentrations of O_3, CO, nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and particulate matter (PM) are commonly used as indicators of ambient air quality conditions. These pollutants are known as *criteria pollutants* and are regulated by the U.S. Environmental Protection Agency (EPA) and California Air Resources Board (CARB) through National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS), which are discussed further in Section 4.3.3, *Applicable Laws and Regulations*.

All criteria pollutants can have human health and environmental effects at certain concentrations. The NAAQS and CAAQS for these pollutants are set to protect public health and the environment within an adequate margin of safety. The following discussion presents additional information on the possible health and environmental effects from exposure to the primary criteria pollutants generated by the project.

Ozone

Ozone, a component of urban "~~smog,~~", is ~~a~~ photochemical oxidant that is formed when volatile organic compounds (VOCs) (also known as reactive organic gases [ROGs]) and oxides of nitrogen (NO_X)—both byproducts of the internal combustion engine—react with sunlight. VOCs are compounds made up primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of hydrocarbons (HC). Other sources of VOCs are emissions associated with the use of paints and solvents, the application of asphalt paving, and the use of

household consumer products such as aerosols. The two major forms of NO_X are nitric oxide (NO) and ~~nitrous oxide,(or nitrogen dioxide) (NO_2).~~ NO_2. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. NO_2 is a reddish-brown irritating gas formed by the combination of NO and oxygen. In addition to serving as an integral participant in ozone formation, NO_X also directly acts as an acute respiratory irritant and increases susceptibility to respiratory pathogens.

Ozone poses a higher risk to those who already suffer from respiratory diseases (e.g., asthma), children, older adults, and people who are active outdoor. Exposure to ozone at certain concentrations can make breathing more difficult, cause shortness of breath and coughing, inflame and damage the airways, aggregate lung diseases, increase the frequency of asthma attacks, and cause chronic obstructive pulmonary disease. Studies show associations between short-term ozone exposure and non-accidental mortality, including deaths from respiratory issues. Studies also suggest long-term exposure to ozone may increase the risk of respiratory-related deaths (EPA 2021a). The concentration of ozone at which health effects are observed depends on an individual's sensitivity, level of exertion (i.e., breathing rate), and duration of exposure. Studies show large individual differences in the intensity of symptomatic responses, with one study finding no symptoms to the least responsive individual after a 2-hour exposure to 400 parts per billion (ppb) of ozone and a 50% decrement in forced airway volume in the most responsive individual. Although the results vary, evidence suggests that sensitive populations (e.g., asthmatics) may be affected on days when the 8-hour maximum ozone concentration reaches 80 ppb (EPA 2021b).

In addition to human health effect~~s~~, ozone has been ~~l~~t~~i~~n~~k~~ed to crop damage, typically in the form of stunted growth, leaf discoloration, cell damage, and premature death. Ozone can also act as a corrosive and oxidant, resulting in property damage such as the degradation of rubber products and other materials.

Organic Gases—Precursors to Ozone include ROGs and VOCs. HCs are organic gases that are formed solely of hydrogen and carbon. ROGs include all HC~~s~~ except those exempted by CARB. VOCs are similar to ROGs in that they include all organic gases except those exempted by federal law. Both VOCs and ROGs are emitted from incomplete combustion of HC~~s~~ or other carbon-based fuels. Combustion engine exhaust, oil refineries, and oil-fueled power plants are the primary sources of HC~~s~~. Another source of HC~~s~~ is evaporation from petroleum fuels, solvents, dry cleaning solutions, and paint. Generally speaking, and in this analysis, ROGs and VOCs are used interchangeably to refer to the HC~~s~~ that are a precursor to O_3 formation.

Carbon Monoxide

CO is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. In the study area, high CO levels are of greatest concern during the winter, when periods of light winds combine with the formation of ground-level temperature inversions from evening through early morning. These conditions trap pollutants near the ground, reducing the dispersion of vehicle emissions. Moreover, motor vehicles exhibit increased CO emission rates at low air temperatures. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation. Exposure to CO at concentrations above the CAAQS or NAAQS (see Table 4.3-2) can also cause fatigue, headaches, confusion, dizziness, and chest pain. There are no ecological or environmental effects from ambient CO (CARB 2021b).

Nitrogen Dioxide

NO_2, is a reddish-brown gas, formed by the combination of NO and oxygen through internal combustion. Long-term exposure to NO_2 can aggregative respiratory diseases, such as asthma, leading to increased hospital admissions (EPA 2021c). Controlled studies demonstrate effects (airway reactivity) among asthmatics at a short-term (less than 3 hours) exposure to 0.3 parts per million (ppm) NO_2. Effects among healthy individuals occurred at high levels of exposure (1.5–2 ppm) (McConnell et al. 2002). For reference, the 1-hour CAAQS for NO_2 is 0.18 ppm (see Table 4.3-2). In additional to human health effects, NO_2 can also reduce visibility and react with water, oxygen, and other chemicals to contribute to acid rain, which can harm sensitive ecosystems (EPA 2021c).

Particulate Matter

Particulate matter consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now regulated—inhalable coarse particles (PM_{10}), and inhalable fine particles ($PM_{2.5}$). Particulate discharge into the atmosphere results primarily from industrial, agricultural, construction, and transportation activities. However, wind on arid landscapes also contributes substantially to local particulate loading. Additionally, secondary formation of PM, primarily in the form of fine particulate, occurs through the chemical transformation of precursors such as NO_X, SO_2, ammonia, and VOCs.

Particulate pollution can be transported over long distances and may adversely affect humans, especially people who are naturally sensitive or susceptible to breathing problems. Numerous studies have linked PM exposure to premature death in people with preexisting heart or lung disease. Other symptoms of exposure may include nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lun~~chg~~ function, and increased respiratory symptoms. Exposure to concentrations of PM above the current ambient air quality standards may result in these health effects (EPA 2021d~~).~~). Similar to O_3, the elderly and those with preexisting heart and lung diseases are at greater risk to the harmful effects of PM exposure. Children are also at increased risk because they breathe faster than adults, and therefore inhale more air per pound of body weight and tend to spend more time outdoors. The CAAQS and NAAQS for PM are set to protect these sensitive populations and define the number of particles that can be present in outdoor air without threatening the health of infants, children, or the elderly (CARB 2021d). The CAAQS and NAAQS for PM are shown in Table 4.3-2.

Depending on their compositions, both PM_{10} and $PM_{2.5}$ can also affect water quality and acidity, deplete soil nutrients, damage sensitive forests and crops, affect ecosystem diversity, and contribute to acid rain (EPA 2021d).

Sulfur Dioxide

SO_2 is a product of fuel combustion. The predominant source of SO_2 emissions within ~~the county~~San Diego County is mobile source fuel combustion, primarily from aircraft, ocean going vessels, and on-road vehicles. In recent years emissions of SO_2 have been significantly reduced by the increasingly stringent controls placed on the sulfur content of fuels used in stationary sources and mobile sources. SO_2 is a precursor to fine PM formation in the form of sulfates, such as ammonium sulfate. Short-term exposure to SO_2 can aggravate the respiratory system, making breathing difficult. Controlled laboratory studies indicate that brief exposure (5 to 10 minutes) of exercising asthmatics to an average SO_2 level of 0.4 ppm can result in increases in air resistance. Healthy adults do not

show any symptoms to SO_2 at levels as high as 1 ppm, even after up to 3 hours of exposure. Based on the concentration needed to protect sensitive individuals (e.g., asthmatics), CARB and EPA have adopted the CAAQS and NAAQS for SO_2 (see Table 4.3-2) (SCAQMD 2017). In addition to public health impacts, SO_2 can also affect the environment by damaging foliage and decreasing plant growth (EPA 2021e).

Lead

Lead is a soft metal that was previously added to gasoline and emitted to the environment through motor vehicle exhaust. Since lead was removed from gasoline, emissions have declined, and the primary source of emissions is now metal processing facilities and leaded aviation gasoline. Lead can also be resuspended into the air when contaminated soil or paints are disturbed. Lead emissions can be inhaled and ingested, leading to accumulation of lead particles in bone. Lead exposure can lead to cognitive function decrements, behavioral problems, kidney and heart disease, decreased immunity and red blood cell counts, and reproductive and developmental effects (CARB 2021e).

Toxic Air Contaminants

In addition to the criteria pollutants discussed above, toxic air contaminants (TACs) are another group of pollutants of concern. Some examples of TACs include benzene, butadiene, formaldehyde, and hydrogen sulfide. Potential TAC-related health effects include birth defects, neurological damage, cancer, and death. There are hundreds of different types of TACs, with varying degrees of toxicity. Individual TACs vary greatly with respect to the health risk they present; at a given level of exposure, one TAC may pose a hazard that is many times greater than another.

TACs do not have ambient air quality standards but are regulated by the EPA and CARB. In 1998, CARB identified particulate matter from diesel-fueled engines as a TAC. CARB completed a risk management process that identified potential cancer risks for a range of activities and land uses that are affected by the use of diesel-fueled engines (CARB 2000a). High-volume freeways, stationary diesel engines, and facilities that attract constant and heavy volumes of diesel vehicle traffic (e.g., distribution centers, truck stops) were identified as areas that pose the highest risk for adjacent receptors. Other facilities associated with increased risk include warehouse distribution centers, large retail or industrial facilities, high-volume transit centers, and schools with a high volume of bus traffic. Health risks from TACs are a function of both the concentration and the duration of exposure. The primary TAC of concern associated with the project is diesel particulate matter (DPM) emissions during construction.

DPM is generated by diesel-fueled equipment and vehicles. CARB estimated that about 70% of the total known cancer risk related to air toxics is attributable to DPM (CARB 2021c). Short-term exposure to DPM can cause acute irritation (e.g., eye, throat, and bronchial), neurophysiological symptoms (e.g., lightheadedness and nausea), and respiratory symptoms (e.g., cough and phlegm). The EPA (2002) has determined that diesel exhaust is "likely to be carcinogenic to humans by inhalation".

4.3.2.3 Existing Air Quality Conditions

The Clean Air Act (CAA) requires the EPA to designate areas within the country as either attainment or nonattainment for each criteria pollutant based on whether ~~the~~ NAAQS have been achieved. Similarly, the California CAA requires CARB to designate areas within California as either attainment

or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. If a pollutant concentration is lower than the ~~s~~State or federal standard, the area is classified as being in attainment for that pollutant. If a pollutant violates the standard, the area is considered a nonattainment area. If data are insufficient to determine whether a pollutant is violating the standard, the area is designated unclassified.

Under the California CAA, areas are designated as nonattainment for a pollutant if air quality data show that a ~~s~~State standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a ~~s~~State standard and are not used as a basis for designating areas as nonattainment. The attainment status of ~~San Diego~~the County is summarized in Table 4.3-1.

Table 4.3-1. Federal and State Attainment Status for San Diego County

Criteria Pollutant	Federal Designation	State Designation
Ozone (O_3) (8-hour)	Nonattainment	Nonattainment
Carbon Monoxide (CO)	Attainment	Attainment
Respirable Particulate Matter (PM_{10})	Unclassifiable/Attainment[1]	Nonattainment
Fine Particulate Matter ($PM_{2.5}$)	Attainment	Nonattainment
Nitrogen Dioxide (NO_2)	Attainment	Attainment
Sulfur Dioxide (SO_2)	Attainment	Attainment
Lead (Pb)	Attainment	Attainment
Sulfates	(No federal standard)	Attainment
Hydrogen Sulfide	(No federal standard)	Unclassified
Visibility	(No federal standard)	Unclassified

Source: SDAPCD 2021b
[1] At the time of designation, if the available data do not support a designation of attainment or nonattainment, the area is designated as unclassifiable.

SDAPCD maintains and operates a network of ambient air monitoring stations throughout ~~the county.~~San Diego County. The purpose of the monitoring stations is to measure ambient concentrations of the pollutants and determine whether the ambient air quality meets the CAAQS and NAAQS. The ambient monitoring station closest to the project site is the Alpine station (CARB 80128), which is approximately 1.5 miles southeast of the project site. The pollutants monitored at the Alpine station are O_3 and NO_2. Monitoring values for CO, PM_{10}, and $PM_{2.5}$ were obtained from the next closest monitoring station, which is the El Cajon-Lexington Elementary School located approximately 11 miles west of the project site. The air quality trends from these stations are used to represent ambient air quality in the project area. Ambient air quality values in the project area from 2017 to 2019 (the most recent available period) are shown in Table 4.3-2. Over the 2017 to 2019 period of available data, monitoring has shown the following air quality trends: both the 1-hour CAAQS and 8-hour NAAQS and CAAQS have been exceeded numerous times at the Alpine station; 24-hour $PM_{2.5}$ NAAQS was exceeded once at El Cajon-Lexington Elementary station in 2018; and there was no CO, NO_2, or PM_{10} exceedances over the 2017 to 2019 period.

Table 4.3-2. Ambient Air Quality Data for the Project Area (2017–2019)

Pollutant Standards	2017	2018	2019
Ozone (O_3) at Alpine station			
Maximum 1-hour concentration (ppm)	0.109	0.102	0.110
Maximum 8-hour concentration (ppm)	0.095	0.083	0.085
Fourth highest 8-hour concentration (ppm)	0.090	0.080	0.077
Number of days standard exceeded			
CAAQS 1-hour standard (> 0.09 ppm)	11	2	2
CAAQS 8-hour standard (> 0.070 ppm)	51	22	18
NAAQS 8-hour standard (> 0.070 ppm)	48	20	16
Carbon Monoxide (CO) at El Cajon-Lexington Elementary School station			
Maximum 8-hour concentration (ppm)	1.4	1.1	1.0
Maximum 1-hour concentration (ppm)	1.5	1.4	1.3
Number of days standard exceeded			
NAAQS 8-hour standard (≥ 9 ppm)	0	0	0
CAAQS 8-hour standard (≥ 9.0 ppm)	0	0	0
NAAQS 1-hour standard (> 35 ppm)	0	0	0
CAAQS 1-hour standard (≥ 20 ppm)	0	0	0
Nitrogen Dioxide (NO_2) at Alpine station			
Maximum ~~s~~State 1-hour concentration (ppm)	0.028	0.031	0.029
Annual average concentration (ppm)	0.004	0.004	0.004
Number of days standard exceeded			
CAAQS 1-hour standard (0.180 ppm)	0	0	0
NAAQS 1-hour standard (0.100 ppm)	0	0	0
Particulate Matter (PM_{10}) at El Cajon-Lexington Elementary School station			
Maximum ~~s~~State 24-hour concentration (µg/m³)	49.4	44.7	37.4
Maximum national 24-hour concentration (µg/m³)	50.0	43.0	38.7
National annual average concentration	22.6	22.6	20.1
Measured number of days standard exceeded			
CAAQS 24-hour standard (50 µg/m³)	0	0	0
NAAQS 24-hour standard (150 µg/m³)	0	0	0
Particulate Matter ($PM_{2.5}$) at El Cajon-Lexington Elementary School station			
Maximum ~~s~~State 24-hour concentration (µg/m³)	35.6	42.0	25.7
Maximum national 24-hour concentration (µg/m³)	31.8	36.2	23.8
National annual average concentration	9.5	9.6	8.5
Measured number of days standard exceeded			
NAAQS 24-hour standard (> 35 µg/m³)	0	1	0

Sources: CARB 2021f, EPA 2021f.
Note: µg/m³ = micrograms per cubic meter; an exceedance is not necessarily a violation.

4.3.2.4 Sensitive Receptors

Sensitive receptors are defined as locations where pollutant-sensitive members of the population may reside or where the presence of air pollutant emissions could adversely affect use of the land. Sensitive members of the population include those who may be more negatively affected by poor air quality than other members of the population, such as children, the elderly, or the infirm. In general, residential areas, hospitals, daycare facilities, elder-care facilities, elementary schools, and parks typically contain a high concentration of these sensitive population groups (CARB 2005a).

Land uses surrounding the project site include open space conservation, semi-rural residential, and vacant/undeveloped land. The closest residences are immediately adjacent to the northeast and south of the project site, across South Grade Road.

4.3.3 Applicable Laws and Regulations

4.3.3.1 Federal

Clean Air Act and National Ambient Air Quality Standards

The federal CAA was enacted in 1963 and amended numerous times in subsequent years (1965, 1967, 1970, 1977, and 1990). The CAA establishes federal air quality standards, known as NAAQS, and specifies future dates for achieving compliance. The CAA also requires each state to submit and implement a State Implementation Plan (SIP) for local areas that fail to meet the standards. The plan must include pollution control measures that demonstrate how the standards will be met.

The 1990 amendments to the CAA identify specific emission reduction goals for areas that fail to meet the NAAQS. These amendments require both a demonstration of reasonable progress toward attainment and incorporation of additional sanctions for failure to attain or meet interim milestones. The sections of the CAA that would affect development of the project include Title I (Nonattainment Provisions) and Title II (Mobile-Source Provisions).

Table 4.3-3 shows the NAAQS that are currently in effect for each criteria pollutant. The CAAQS (discussed below) are provided for reference.

Table 4.3-3. Federal and State Ambient Air Quality Standards

Criteria Pollutant	Average Time	California Standards	National Standards[1]	
			Primary	Secondary
Ozone	1 hour	0.09 ppm	None[2]	None[2]
	8 hours	0.070 ppm	0.070 ppm	0.070 ppm
Respirable Particulate Matter (PM_{10})	24 hours	50 μg/m^3	150 μg/m^3	150 μg/m^3
	Annual mean	20 μg/m^3	None	None
Fine Particulate Matter ($PM_{2.5}$)	24 hours	None	35 μg/m^3	35 μg/m^3
	Annual mean	12 μg/m^3	12.0 μg/m^3	15.0 μg/m^3
Carbon Monoxide	8 hours	9.0 ppm	9 ppm	None
	1 hour	20 ppm	35 ppm	None

Criteria Pollutant	Average Time	California Standards	National Standards[1]	
			Primary	Secondary
Nitrogen Dioxide	Annual mean	0.030 ppm	0.053 ppm	0.053 ppm
	1 hour	0.18 ppm	0.100 ppm	None
Sulfur Dioxide[3]	Annual mean	None	0.030 ppm	None
	24 hours	0.04 ppm	0.14 ppm	None
	3 hours	None	None	0.5 ppm
	1 hour	0.25 ppm	0.075 ppm	None
Lead	30-day average	1.5 μg/m^3	None	None
	Calendar quarter	None	1.5 μg/m^3	1.5 μg/m^3
	3-month average	None	0.15 μg/m^3	0.15 μg/m^3
Sulfates	24 hours	25 μg/m^3	None	None
Visibility-Reducing Particles	8 hours	--[4]	None	None
Hydrogen Sulfide	1 hour	0.03 ppm	None	None
Vinyl Chloride	24 hours	0.01 ppm	None	None

Source: CARB 2016.
[1] National standards are divided into primary and secondary standards. Primary standards are intended to protect public health, whereas secondary standards are intended to protect public welfare and the environment.
[2] The federal 1-hour standard of 12 parts per hundred million was in effect from 1979 through June 15, 2005. The revoked standard is referenced because it was employed for such a long period and is a benchmark for SIPs.
[3] The annual and 24-hour NAAQS for sulfur dioxide apply for only 1 year after designation of the new 1-hour standard in areas that were previously nonattainment areas for the 24-hour and annual NAAQS.
[4] The CAAQS for visibility-reducing particles is defined by an extinction coefficient of 0.23 per kilometer (visibility of 10 miles or more due to particles when relative humidity is less than 70%).

Non-Road Diesel Rule

The EPA has established a series of increasingly strict emissions standards for new off-road diesel equipment, on-road diesel trucks, and locomotives. New construction equipment used for the project, including heavy-duty trucks and off-road construction equipment, would be required to comply with the emissions standards.

Corporate Average Fuel Economy Standards

The National Highway Traffic Safety Administration (NHTSA) Corporate Average Fuel Economy (CAFE) standards require substantial improvements in fuel economy and reductions in emissions of criteria air pollutants and precursors, as well as greenhouse gases, from all light-duty vehicles sold in the United States. On August 2, 2018, NHTSA and the EPA proposed an amendment to the fuel efficiency standards for passenger cars and light trucks and established new standards for model years 2021 through 2026 that would maintain the then-current 2020 standards through 2026—this was known as the Safer Affordable Fuel-Efficient (SAFE) Vehicles Rule. On September 19, 2019, NHTSA and the EPA issued a final action on the One National Program Rule, which is considered Part One of the SAFE Vehicles Rule and a precursor to the proposed fuel efficiency standards. The One National Program Rule enables NHTSA and the EPA to provide nationwide uniform fuel economy and air pollutant standards by (1) clarifying that federal law preempts state and local tailpipe standards, (2) affirming NHTSA's statutory authority to set nationally applicable fuel economy standards, and (3) withdrawing California's CAA preemption waiver to set ~~s~~State-specific standards.

NHTSA and the EPA published their decision to withdraw California's waiver and finalize the regulatory text related to the preemption on September 27, 2019 (84 *Federal Register* 51310). California, 22 other states, the District of Columbia, and two cities filed suit against Part One of the SAFE Vehicles Rule on September 20, 2019 (*California et al. v. United States Department of Transportation et al.,* 1:19-cv-02826, U.S. District Court for the District of Columbia). On October 28, 2019, the Union of Concerned Scientists, Environmental Defense Fund, and other groups filed a protective petition for review after the federal government sought to transfer the suit to the District of Columbia (*Union of Concerned Scientists v. National Highway Traffic Safety Administration*). The lawsuit filed by California and others has been stayed, pending resolution of the petition.

NHTSA and the EPA published final rules on April 30, 2020, to amend and establish national air pollutant and fuel economy standards (Part Two of the SAFE Vehicles Rule) (85 *Federal Register* 24174). The revised rule changes the national fuel economy standards for light-duty vehicles from 46.7 miles per gallon (mpg) to 40.4 mpg in future years. California, 22 other states, and the District of Columbia filed a petition for review of the final rule on May 27, 2020.[1]

On January 20, 2021, President Biden issued an executive order directing the EPA and NHTSA to review the SAFE Vehicles Rule and propose a new rule suspending, revising, or rescinding it. On April 22, 2021, NTHSA issued a notice of proposed rulemaking to repeal the SAFE Vehicles Rule (49 Code of Federal Regulations Parts 531 and 533).

4.3.3.2 State

California Clean Air Act and California Ambient Air Quality Standards

In 1988, the ~~s~~State legislature adopted the California CAA, which established a statewide air pollution control program. The California CAA requires all air districts in the ~~s~~State to endeavor to meet the CAAQS by the earliest practical date. Unlike the federal CAA, the California CAA does not set precise attainment deadlines. Instead, the California CAA establishes increasingly stringent requirements for areas that require more time to achieve the standards. The CAAQS are generally more stringent than the NAAQS and incorporate additional standards for sulfates, hydrogen sulfide, visibility-reducing particles, and vinyl chloride. The CAAQS and NAAQS are listed together in Table 4.3-3.

CARB and local air districts bear responsibility for achieving California's air quality standards. The standards are to be achieved through district-level air quality management plans, which are incorporated into the SIP. In California, EPA has delegated authority to prepare SIPs to CARB, which, in turn, has delegated that authority to individual air districts. CARB has traditionally established ~~s~~State air quality standards, maintained oversight authority for air quality planning, developed programs for reducing emissions from motor vehicles, developed air emissions inventories, collected air quality and meteorological data, and approved SIPs.

The California CAA substantially increases the authority and responsibilities of air districts. The California CAA designates air districts as lead air quality planning agencies, requires air districts to prepare air quality plans, and grants air districts authority to implement transportation control measures. The California CAA also emphasizes control of "indirect and area-wide sources" of air

[1] *California et al. v. United States Department of Transportation et al.*, 1:19-cv-02826, U.S. District Court for the District of Columbia.

pollutant emissions. The California CAA gives local air pollution control districts explicit authority to regulate indirect sources and establish traffic control measures.

Statewide Truck and Bus Regulation

CARB adopted the Truck and Bus Regulation in 2008 to focus its efforts on reducing emissions of DPM, NO_X, and other criteria pollutants from diesel-fueled vehicles. This regulation applies to any diesel-fueled vehicle as well as any dual-fuel or alternative-fuel diesel vehicle that travels on public highways, yard trucks with on-road engines, yard trucks with off-road engines used for agricultural operations, school buses, and vehicles with a gross vehicle weight rating (GVWR) of more than 14,000 pounds. The purpose of the regulation is to require trucks and buses registered in the ~~s~~State to have 2010 or newer engines by 2023. Compliance schedules have been established for lighter vehicles (GVWR of 14,000–26,000 pounds) and heavier vehicles (GVWR of more than 26,001 pounds) (CARB 2020). As of January 1, 2020, only vehicles that mee~~t~~ the requirements of the Trucks and Bus Regulation ~~a~~were allowed to register with the California Department of Motor Vehicles.

Air Toxic Control Measure

In 2004, CARB developed multiple measures under its Air Toxic Control Measure (ATCM) to address specific mobile- and stationary-source issues that have an impact on public health. The ATCMs focused on reducing the public's exposure to DPM and TAC emissions. The "Limit Diesel-Fueled Commercial Motor Vehicle Idling" ATCM required drivers of heavy-duty trucks with a GVWR of more than 10,000 pounds to not idle the primary engine for more than 5 minutes at any given time or operate an auxiliary power system for more than 5 minutes within 100 feet of a restricted area (CARB 2005b). In addition, CARB set operating requirements for new emergency standby engines (i.e., diesel-fueled compression-ignition engines of less than 50 brake horsepower). Specifically, new engines are not allowed to operate more than 50 hours per year for maintenance and testing purposes. This does not limit engine operation for emergency use or emission testing required to show compliance with ATCM Section 93115.6(a)(3).

Toxic Air Contaminant Regulation

California regulates TACs primarily through the Toxic Air Contaminant Identification and Control Act (Tanner Act) and the Air Toxics "Hot Spots" Information and Assessment Act of 1987 ("Hot Spots" Act). In the early 1980s, CARB established a statewide comprehensive air toxics program to reduce exposure to air toxics. The Tanner Act created California's program to reduce the public's exposure to air toxics. The "Hot Spots" Act supplements the Tanner Act by requiring a statewide air toxics inventory, notification for people who were exposed to a significant health risk, and facility plans to reduce risks.

In August 1998, CARB identified DPM from diesel-fueled engines as a TAC. In September 2000, CARB approved a comprehensive Diesel Risk Reduction Plan to reduce emissions from both new and existing diesel-fueled engines and vehicles. The goal of the plan was to reduce DPM (i.e., respirable particulate matter) emissions, and associated health risk, by 75% in 2010 and 85% by 2020. The plan identifies 14 measures that CARB will implement over the next several years (CARB 200b).

Off-Road Diesel Vehicle Regulation

Off-road vehicles include, but are not limited to, diesel compression-ignition equipment; spark-ignition gasoline and liquified petroleum gas equipment; support equipment at ports, airports, and railways; and marine vehicles. In 2007, CARB aimed to reduce emissions of DPM, NO_X, and other criteria pollutants from off-road diesel-fueled equipment with adoption of the In-Use Off-Road Diesel-Fueled Fleets Regulation (Off-Road Regulation). The Off-Road Regulation applies to all diesel-fueled equipment or alternative-fuel diesel equipment with a compression-ignition engine greater than 25 horsepower (e.g., tractors, bulldozers, backhoes) as well as dual-fuel equipment. The regulation also applies to all equipment that is rented or leased (CARB 2008). The purpose of the regulation is to reduce emissions by retiring, repowering, or replacing older, dirtier engines with newer, cleaner engines. The regulation established a compliance schedule for owners of small, medium, and large fleets. The schedule for large and medium fleets requires full implementation by 2023; small fleets have until 2028 (CARB 2008).

4.3.3.3 Regional

San Diego Air Pollution Control District

Local air pollution control districts have the primary responsibility for the development and implementation of rules and regulations designed to attain the NAAQS and CAAQS, as well as the permitting of new or modified sources, development of air quality management plans, and adoption and enforcement of air pollution regulations. SDAPCD is the local agency responsible for the administration and enforcement of air quality regulations in ~~the county~~San Diego County.

Regional Air Quality Strategy and State Implementation Plan

CARB, SDAPCD, and the San Diego Association of Governments (SANDAG) are responsible for developing and implementing the clean air plan for attainment and maintenance of the ambient air quality standards in the SDAB. ~~San Diego~~The County is currently in nonattainment for O_3 under the NAAQS and for O_3, PM_{10}, and $PM_{2.5}$ under the CAAQS.

The San Diego Regional Air Quality Strategy (RAQS) outlines SDAPCD's plans and control measures designed to attain and maintain the ~~s~~State standards, while San Diego's portions of the SIP are designed to attain and maintain federal standards. The RAQS was initially adopted in 1991 and is updated on a triennial basis. The RAQS was updated in 1995, 1998, 2001, 2004, 2009, and most recently in December 2016 (SDAPCD 2018). The RAQS does not currently address the ~~s~~State air quality standards for PM_{10} or $PM_{2.5}$. SDAPCD has also developed the air basin's input to the SIP, which is required under the federal CAA for areas that are out of attainment of air quality standards. The most recent federal plan is the 2020 Plan for Attaining the National Ozone Standards (Attainment Plan). Both the RAQS and Attainment Plan demonstrate the effectiveness of CARB measures (mainly for mobile sources) and SDAPCD's plans and control measures (mainly for stationary and area-wide sources) for attaining the O_3 NAAQS (SDAPCD 2020). In addition, the *Measures to Reduce Particulate Matter in San Diego County* report proposed measures to reduce PM emissions and recommends measures for further detailed evaluation and, if appropriate, future rule development (or non-regulatory development, if applicable), adoption, and implementation in ~~the county~~San Diego County, in order to attain PM CAAQS (SDAPCD 2005).

SDAPCD Rules and Regulations

SDAPCD is responsible for establishing and enforcing local air quality rules and regulations that address the requirements of federal and ~~s~~State air quality laws. The project may be subject to the following SDAPCD rules, and others, during construction.

- **Rule 50—Visible Emissions:** establishes limits for the opacity of emissions within the SDAPCD. The project is subject to Rule 50(d)(1) and (6) and should not exceed the visible emission limitation.
- **Rule 51—Nuisance:** prohibits emissions that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public; endanger the comfort, repose, health, or safety of any such persons or the public; or cause injury or damage to business or property.
- **Rule 52—Particulate Matter:** establishes limits for the discharge of any particulate matter from nonstationary sources.
- **Rule 54—Dust and Fumes:** establishes limits for the amount of dust or fume discharged into the atmosphere in any 1 hour.
- **Rule 55—Fugitive Dust Control:** sets restrictions on visible fugitive dust from construction and demolition projects.
- **Rule 67—Architectural Coatings:** establishes limits to the VOC content for coatings applied within the SDAPCD.
- **Rule 67.7—Cutback and Emulsified Asphalts:** establishes general provisions and limits to the VOC content for asphalt materials applied within the SDAPCD.

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

San Diego Forward: The Regional Plan (Regional Plan) was adopted by the SANDAG Board of Directors on October 9, 2015, to establish a long-range blueprint for the San Diego region's growth and development through the year 2050. The Regional Plan was developed in close partnership with the region's 18 cities and the County ~~governmentand~~, and aims to provide innovative mobility choices and planning to support a sustainable quality of life in a healthy region, with a vibrant economy.

The 2015 Regional Transportation Plan (RTP)/Sustainable Communities Strategy (SCS) includes the following six policy objectives that provide a framework for the proposed sustainability strategy (SANDAG 2015):

1. **Habitat and Open Space Preservation**
    a. Focus growth in areas that are already urbanized, allowing the region to set aside and restore more open space in our less developed areas.
    b. Protect and restore ~~the~~our region's urban canyons, coastlines, beaches, and water resources.
2. **Regional Economic Prosperity**
    a. Invest in transportation projects that provide access for all communities to a variety of jobs with competitive wages.

b. Build infrastructure that makes the movement of freight in ~~the~~our community more efficient and environmentally friendly.

3. **Environmental Stewardship**

   a. Make transportation investments that result in cleaner air, environmental protection, conservation, efficiency, and sustainable living.

   b. Support energy programs that promote sustainability.

4. **Mobility Choices**

   a. Provide safe, secure, healthy, affordable, and convenient travel choices between the places where people live, work, and play.

   b. Take advantage of new technologies to make the transportation system more efficient and accessible.

5. **Partnerships/Collaboration**

   a. Collaborate with Native American tribes, Mexico, military bases, neighboring counties, infrastructure providers, the private sector, and local communities to design a transportation system that connects to the megaregion and national network, works for everyone, and fosters a high quality of life for all.

   b. As we plan for our region, recognize the vital economic, environmental, cultural, and community linkages between the San Diego region and Baja California.

6. **Healthy and Complete Communities**

   a. Create great places for everyone to live, work, and play.

   b. Connect communities through a variety of transportation choices that promote healthy lifestyles, including walking and biking.

   c. Increase the supply and variety of housing types -- affordable for people of all ages and income levels in areas with frequent transit service and with access to a variety of services.

SANDAG's *San Diego Forward: The 2021 Regional Plan* is currently in development and is anticipated to be adopted in late 2021. This updated plan will introduce five key transportation strategies (SANDAG 2021):

1. **Complete Corridors**: connected routes that provide a variety of travel choices for those who walk, bike, drive, or ride transit.
2. **Transit Leap**: a complete network of fast, high-capacity, high-frequency transit services that connect residential areas with employment centers and attractions.
3. **Mobility Hubs**: locations of connectivity where mobility services, amenities, and supporting technologies come together to better connect high-frequency transit to the individual.
4. **Flexible Fleets**: shared mobility services including on-demand rideshare, bikeshare, or scootershare.
5. **Next Operating System (OS)**: a system that collectively analyzes the entire transportation network to improve transportation planning, operation, and experience.

4.3.4 Project Impact Analysis

4.3.4.1 Methodology

Air quality impacts associated with construction and operation of the various project components were assessed and quantified using industry standard and accepted software tools, techniques, and emission factors. A summary of the methodology is provided below. A full list of assumptions and emission calculations can be found in Appendix C. The methodology used to estimate air quality emissions discussed below is the same that was used to estimate GHG emissions, as described in Section 4.8.

Construction

Construction of the project would generate emissions of VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$ that could result in short-term impacts on ambient air quality in the study area. Emissions would result from off-road equipment exhaust, employee vehicles and haul trucks, fugitive dust from site grading and earthmoving activities, re-entrained road dust from vehicle travel, and off-gassing emissions from architectural coatings and paving; each of these are discussed in detail below. Emissions were estimated using the California Emissions Estimator Model (CalEEMod), version 2016.3.2. The estimates relied on a combination of CalEEMod default data values as well as information based on similar types of projects provided by County DPR staff. ~~Construction is expected to~~The following analysis was developed assuming construction would begin in ~~the~~ fall ~~of~~ 2022 and last approximately 16 months. Construction phasing would include site preparation, grading and excavation, utility installation, sewer line installation, paving, and architectural coating. A detailed description of model input and output parameters and assumptions is provided in Appendix C.

- **Off-Road Equipment:** Emissions associated with diesel-powered construction equipment were estimated based on emission factor~~s~~, horsepower, and load factors from CalEEMod (version 2016.3.2), with activity data (hours per days, days of use) confirmed by County DPR staff.
- **On-Road Vehicles:** On-road vehicles (e.g., delivery trucks, haul trucks, and passenger vehicles) would be required for material deliveries to the project site, material hauling from the project site, onsite material movement, and employee commuting. Exhaust emissions from on-road vehicles were estimated in CalEEMod using daily activity data including the number of trips per day. Emission factors for haul trucks are based on aggregated-speed emission rates for ~~EMFAC's~~ EMission FACtor's (EMFAC) heavy-heavy duty truck (HHDT) vehicle category. Emission factors for water and vendor trucks are based on aggregated-speed emission rates for EMFAC's HHDT and medium heavy-duty trucks (MHDT) vehicle categories with a fleet mix consisting of 50% MHDT and 50% HHDT. Emission factors for employee commute vehicles are based on a weighted average of the aggregated-speed emission rates for EMFAC's light-duty automobile/light-duty truck vehicle categories (LDA, LDT1, and LDT2). The employee commute vehicles consisted of a fleet mix of 50% LDA, 25% LDT1, and 25% LDT2. Fugitive dust from travel on paved roads by worker vehicles, vendors, and haul trucks was estimated using CalEEMod and are based on emission factors from EPA's AP-42 Compilation of Air Pollutant Emission Factors, Section 13.2.1 Paved Roads guidance, and CARB's Miscellaneous Process Methodology 7.9, Entrained Road Travel, Paved Road Dust.
- **Site Grading and Earth Movement:** Fugitive dust emissions from earth movement (e.g., site preparation and excavation/grading and truck loading) were quantified using emission factors

from CalEEMod. Based on the project's grading plans, it was estimated that a majority of soil would be balanced onsite, and ~~therefore~~ soil export trucks would not be required. However, a variety of fill materials for trails and walkways would be imported by haul trucks. Fill material to be imported would require approximately 1,700 trucks trips during the construction period assuming approximately 13,400 cubic yards of import using 16-cubic-yard trucks. The analysis includes dust control ~~measures~~ such as watering exposed areas three times per day consistent with SDAPCD Rule 55.

- **Paving:** Fugitive ROG emissions were calculated based the assumption of 3 acres to be paved at the project site and the CalEEMod default emission factor of 2.62 pounds of ROG per acre paved.
- **Architectural Coatings**: ROG emissions from the application of architectural coatings were calculated based on the total surface amount to be coated for the project and the VOC content of the coatings. The amount of surface to be coated was determined using CalEEMod's default assumption that the total surface for painting for a project equals 2 times that for non-residential square footage. Additionally, of the total surface area to be coated, CalEEMod assumes that 75% of the area would be for the interior surfaces and 25% would be for the exterior shell. Additionally, CalEEMod assumes 6% of the parking area would be painted for striping. The default VOC content value of 250 grams per liter was used for all project components.

Operation

Operation of the project would generate emissions of VOC, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. Criteria pollutant emissions would be generated from mobile and area sources. The project would not consume natural gas emissions. CalEEMod was used to estimate emissions from these sources, and a discussion of each is provided below. The project buildout year for the ~~project~~ following analysis is assumed to be 2024 based on a ~~fall 2022~~spring 2024 construction start date ~~and a 16-month construction period.~~.

A detailed description of model input and output parameters and assumptions is provided in Appendix C.

- **Mobile Sources:** Emissions from motor vehicles are associated with park visitors and periodic maintenance. Mobile emissions were estimated using daily trip estimates provided in the project's Transportation Impact Study (TIS) (Chen Ryan 2020) and CalEEMod's default trip lengths and emission factors for 2024. The TIS estimated the project would generate 480 daily trips.
- **Area Sources:** Area source emissions were estimated using CalEEMod and are associated with re-application of architectural coatings as part of building maintenance, consumer products (e.g., cleaning compounds, degreasers, and fertilizers), and combustion of fuel from landscaping equipment. Architectural coatings and consumer product use are based on the square footage of the project's buildings (e.g., concessions, restrooms, ranger office). A Health Club land use was used in CalEEMod to account for building square footage and associated area sources.

4.3.4.2 Thresholds of Significance

Appendix G of the ~~State~~ CEQA Guidelines

Based on guidance provided in Appendix G of the ~~State~~ CEQA Guidelines and the County ~~of San Diego~~ Guidelines for Determining Significance for Air Quality, the project would result in a significant impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan;
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or ~~s~~State ambient air quality standard;
3. Expose sensitive receptors to substantial pollutant concentrations; and~~/or~~
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

County of San Diego Guidelines for Determining Significance

The CEQA thresholds provided by the *County of San Diego Guidelines for Determining Significance for Air Quality* (County of San Diego 2007) state that a significant impact would occur if project implementation would result in the following:

1. Conflict with or obstruct implementation of the San Diego Regional Air Quality Strategy (RAQS) or applicable portions of the State Implementation Plan (SIP).
2. Result in emissions that would violate any air quality standard or contribute substantially to an existing or projected air quality violation.
3. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable Federal or State ambient air quality standard (PM_{10}, $PM_{2.5}$ or exceed quantitative thresholds for O_3 precursors, oxides of nitrogen [NO_X] and Volatile Organic Compounds [VOCs]).
4. Expose sensitive receptors (including, but not limited to, schools, hospitals, resident care facilities, or day-care centers) to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

The California Supreme Court's decision in *Sierra Club v. County of Fresno* ~~(~~, 6 Cal. 5th 502 (2018) (hereafter referred to as the Friant Ranch Decision) reviewed the long-term, regional air quality analysis contained in the EIR for the proposed Community Plan Update and Friant Ranch Specific Plan (Friant Ranch Project). The Friant Ranch Project is a 942-acre master-plan development in unincorporated Fresno County within the San Joaquin Valley Air Basin, an air basin currently in nonattainment under the NAAQS and CAAQS for O_3 and $PM_{2.5}$. The Court found that the EIR's air quality analysis was inadequate because it failed to provide enough detail "for the public to translate the bare [criteria pollutant emissions] numbers provided into adverse health impacts or to understand why such a translation is not possible at this time." The Court's decision clarifies that environmental documents must attempt to connect a project's air quality impacts to specific health effects or explain why it is not technically feasible to perform such an analysis.

As discussed above, all pollutants that would be generated by the project are associated with some form of health risk (e.g., asthma, lower respiratory problems). Regional pollutants can be transported over long distances and affect ambient air quality far from the emissions source. Localized pollutants affect ambient air quality near the emissions source. As noted, the primary pollutants of concern generated by the project are O_3 precursors (ROG and NO_X), CO, and PM (including DPM). Emission thresholds that can be used to evaluate the significance level of regional and localized pollutants are discussed in the following subsections.

Thresholds for Criteria Pollutants

The ~~State~~ CEQA Guidelines, Appendix G (14 California Code of Regulations 15000 et seq.), provides guidance for determining whether a project could have significant air quality impacts. Moreover, Appendix G states that, where available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make the following determinations, and Section 15064.7(c) states that when adopting or using thresholds of significance, a lead agency may consider thresholds of significance previously adopted or recommended by other public agencies or recommended by experts, provided the decision of the lead agency to adopt such thresholds is supported by substantial evidence.

While SDAPCD has not developed specific thresholds of significance to evaluate construction and operation criteria pollutant impacts within CEQA documents, SDAPCD's Regulation II, Rules 20.2 and 20.3 (new source review for non-major and major stationary sources, respectively), outline Air Quality Impact Analysis (AQIA) Trigger Levels for regional criteria pollutants for new or modified sources. Based on SDAPCD's AQIA Trigger Levels, as well as EPA rulemaking and CEQA thresholds adopted by the South Coast Air Quality Management District (SCAQMD), the County has established Screening Level Thresholds (SLTs) to assist lead agencies in determining the significance of project-level regional air quality impacts within ~~the county~~San Diego County (as shown in Table 4.3-4). Although SDAPCD does not have VOC or $PM_{2.5}$ AQIA Trigger Levels, the County recommends a $PM_{2.5}$ SLT based on EPA's "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published on September 8, 2005, which is also consistent with SCAQMD's Air Quality Significance Thresholds (SCAQMD 2015), and a VOC SLT based on the threshold of significance for VOCs from the SCAQMD previously recommended for projects in the Coachella Valley. Emissions in excess of the County's SLTs, shown in Table 4.3-4, would be expected to have a significant impact on regional air quality because an exceedance of the SLTs is anticipated to contribute to CAAQS and NAAQS violations in ~~the county~~San Diego County.

The County's SLTs are based on SDAPCD AQIA Trigger Levels, and these AQIA Trigger Levels are based on emissions levels identified under the New Source Review (NSR) program, which is a permitting program established by Congress as part of the CAA Amendments of 1990 to ensure that air quality is not significantly degraded by new or modified sources of emissions. The NSR program requires that stationary sources receive permits before construction begins and/or the use of equipment. By permitting stationary sources, the NSR program ensures that new emissions would not slow regional progress toward attaining the NAAQS. SDAPCD's Trigger Levels outlined in Rules 20.2 and 20.3 were set as the total emission thresholds associated with the NSR program to help attain and maintain the NAAQS from new and modified non-major stationary sources.[2] SDAPCD's

[2] San Diego County Air Pollution Control District, Rule 20.2, Table 20.2-1, incorporated by reference: https://www.sdapcd.org/content/dam/sdc/apcd/PDF/Rules_and_Regulations/Permits/APCD_R20-2.pdf.

Trigger Levels take into account the region's attainment status, emission profile, inventory, and projections, and represent levels above which project-generated emissions could affect SDAPCD's role and commitment to attain the CAAQS and NAAQS in the region. Consistent with Section 15064.7(c) of the ~~State~~ CEQA Guidelines (see above), the evidence in support of the air quality thresholds shown in Table 4.3-4 is deemed appropriate for their use in this analysis and in this location within the greater SDAB.

Table 4.3-4. County of San Diego Screening-Level Thresholds

	Emission Rate		
Air Contaminant	(pounds per hour)	(pounds per day)[1]	(tons per year)
Respirable Particulate Matter (PM_{10})	--	100	15
Fine Particulate Matter ($PM_{2.5}$)[2]	--	55	10
Nitrogen Oxides (NO_X)	25	250	40
Sulfur Oxides (SO_X)	25	250	40
Carbon Monoxide (CO)	100	550	100
Lead (Pb)[3]	--	3.2	0.6
Volatile Organic Compounds (VOC)/Reactive Organic Gasses (ROG)[4]	--	75	13.7[5]

Source: County of San Diego 2007.
[1] The County's Guidelines for Determining Significance for Air Quality states that daily SLTs are most appropriate when assessing impacts from standard construction and operational emissions. Therefore, daily SLTs are used to evaluate project significance, while hourly and annual SLTs are provided for informational purposes only.
[2] Based on EPA's "Proposed Rule to Implement the Fine Particle National Ambient Air Quality Standards" published September 8, 2005, and also SCAQMD's Air Quality Significance Thresholds (SCAQMD 2019).
[3] Lead and lead compounds.
[4] County SLTs for VOCs were originally based on the threshold of significance for VOCs from SCAQMD for the Coachella Valley. The terms VOC and ROG are used interchangeably herein, although the County uses the term VOC.
[5] 13.7 tons per year threshold is based on 75 pounds per day multiplied by 365 days per year and divided by 2,000 pounds per ton.

In addition to the thresholds shown in Table 4.3-4, The County has also developed screening criteria to evaluate CO hot-spots from motor vehicle traffic, which can be a problem in urban areas (County of San Diego 2007). Hot-spots typically occur in areas of high motor vehicle use, such as in parking lots, at congested intersections, and along highways. Because elevated CO concentrations typically occur at locations with high traffic volumes and congestion, elevated CO concentrations are often correlated with level of service (LOS) at intersections. LOS expresses the congestion level for an intersection and is designated by a letter from A to F, with LOS A representing the best operating conditions and LOS F the worst. Significant concentrations of CO sometimes occur (depending on temperature, wind speed, and other variables) at intersections where LOS is rated at D or worse.

The thresholds presented in Table 4.3-4 consider existing air quality concentrations and attainment or nonattainment designations under the NAAQS and CAAQS. The NAAQS and CAAQS are informed by a wide range of scientific evidence that demonstrates there are known safe concentrations of criteria pollutants. While recognizing that air quality is a cumulative problem, SDAPCD, through Rule 20.2, and the County, through its Guidelines for Determining Significance, consider projects that generate criteria pollutant and O_3 precursor emissions below these thresholds to be minor in nature and would not adversely affect air quality such that the health-protective NAAQS or CAAQS would be exceeded. Regional emissions generated by the project could increase photochemical reactions and the formation of tropospheric O_3 and secondary PM, which at certain concentrations could lead to

increased incidence of specific health consequences. Although these health effects are associated with O_3 and particulate pollution, the effects are a result of cumulative and regional emissions.

Thresholds for Toxic Air Contaminants

The County recommends incremental cancer and hazard thresholds to evaluate receptor exposure to DPM emissions, which are adapted from SDAPCD Regulation XII, Rule 1200 (1996) (County of San Diego 2007). Projects that would lead to exposure to TACs resulting in a maximum incremental cancer risk (MICR) greater than 1 in 1 million without application of Toxics Best Available Control Technology (T-BACT),[3] MICR greater than 10 in 1 million with application of T-BACT, or a chronic and acute non-cancer health hazard index greater than 1 would be deemed as having a potentially significant impact related to health risks from DPM exposure. These significance thresholds are consistent with the SDAPCD Rule 1210 requirements for stationary sources.

There are no quantitative thresholds related to receptor exposure to asbestos. However, SDAPCD Rule 1206 requires that facility surveys be performed to identify the presence of asbestos containing materials (ACM) prior to commencement of demolition or renovation activities. If ACM is found then the demolition or renovation activities must comply with notification requirements and procedures for asbestos emissions control and waste handling and disposal, including complying with the limitations of the National Emission Standards for Hazardous Air Pollutants regulations as listed in Code of Federal Regulations, Title 40, Part 61.

4.3.4.3 Project Impacts and Mitigation Measures

Threshold 1: The project would not conflict with or obstruct implementation of an applicable air quality plan~~?~~.

County Park and Trails and Open Space~~/Preserve~~

Impact Discussion

SDAPCD is required, pursuant to the NAAQS and CAAQS, to reduce emissions of criteria pollutants for which ~~the county~~San Diego County and air basin are in nonattainment (i.e., O_3, PM_{10}, and $PM_{2.5}$). The most recent SDAPCD air quality attainment plans are the 2016 RAQS and the 2020 O_3 attainment plan. The RAQS outlines SDAPCD's plans and control measures designed to attain the CAAQS for O_3, while the 2020 O_3 attainment plan includes SDAPCD's plans and control measures for attaining the NAAQS for O_3. The RAQS and SIP project future emissions and determine the strategies necessary for the reduction of stationary source emissions through regulatory controls. The RAQS relies on the emission projections and control measures outlined in the SIP. CARB mobile source emission projections and SANDAG growth projections in the Regional Plan are based on population and vehicle trends and land use plans developed by the region's cities and by the County ~~of San Diego.~~ The 2020 O_3 attainment plan represents SDAPCD's portion of the SIP. The SIP is a comprehensive plan of previously submitted plans, programs (such as monitoring, modeling,

[3] T-BACT is the level of air contaminant emission control or reduction required by state law and SDAPCD rules for new, modified, relocated, and replacement emission sources. Examples of T-BACT include diesel particulate filters, catalytic converters, and selective catalytic reduction technology.

permitting, etc.), district rules, ~~s~~State regulations, and federal controls that describes how each nonattainment area in the ~~s~~State will meet NAAQS, as described in Section 4.3.3.3, *Regional*.

The simplest test to assess project consistency is to determine if the project proposes development that is consistent with the growth anticipated by the relevant land use plans that were used in the formulation of the RAQS and SIP; if so, then the project would be consistent with the RAQS and SIP. Moreover, if the project is consistent with the overarching goals (i.e., to reduce emissions and attain NAAQS and CAAQS) and strategies (i.e., measures implemented to reduce emissions), then the project would be consistent with the RAQS and SIP.

The project site is within the ~~jurisdiction~~boundaries of the County ~~of San Diego~~ Alpine Community Plan~~,~~, which designates the site as Semi-Rural Residential (SR-2). Zoning for the site is A70, Limited Agricultural Use, and S80, Open Space. "Community Recreation," which allows for recreational, social or multi-purpose uses, is consistent with the activities anticipated at the project site, and is an allowable use subject to a Major Use Permit within land zoned A70 (County of San Diego 2021). Therefore, the project would not conflict with existing land use or zoning for the project site. Furthermore, SANDAG's Regional Plan established a long-range blueprint for the San Diego region's growth and development through the year 2050. Because the project would not include any components that would result in substantial unplanned population growth, it would be consistent with the 2050 RTP. In addition, the project would have less than significant impacts related to vehicle miles traveled (VMT), which would be consistent with the goals of Senate Bill (SB) 375 and SANDAG's Regional Plan.

SDAPCD adopts rules and regulations based on the RAQS reduction measures. Implementation of the project would require compliance with applicable SDAPCD rules and regulations, which would reduce criteria pollutant emissions generated during construction and operation. For example, Rule 55 prohibits construction or demolition activity that would discharge into the atmosphere, beyond the property line, dust emissions of 10% opacity or greater for a period of 3 minutes in any 60-minute period. Rule 55 also requires minimization of visible roadway dust because of active operations that generate fugitive dust.

Overall, the project would be consistent with existing land use designations and zoning; thus, the project would be consistent with the growth projections included in the RAQS and SIP.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Threshold 2: The project would not result in a cumulatively considerable net increase of criteria pollutants for which the project region is nonattainment under an applicable federal or ~~s~~State ambient air quality standard~~?~~.

County Park and Trails and Open Space~~/Preserve~~

Impact Discussion

Construction

Construction activities would generate criteria pollutant emissions from off-road equipment exhaust, construction workers' vehicles and heavy-duty trucks traveling to and from the project site, the application of architectural coatings, and paving activities. Fugitive PM_{10} and $PM_{2.5}$ dust would also be generated during soil movement and disturbance. The amount of emissions generated on a daily basis would vary, depending on the intensity and types of construction activities occurring simultaneously. Maximum daily emissions typically occur during phases with the greatest intensity of construction activities as well as when multiple construction phases take place on the same day. The estimated maximum daily criteria air pollutant emissions that would be generated during the project's construction are shown in Table 4.3-5. As shown, construction of the project on the maximum day would result in emissions that would not exceed the County SLTs.

Table 4.3-5. Estimated Maximum Daily Construction Emissions

		Maximum Daily Emissions (pounds per day)[1,2]					
	Construction Phase	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2022	Grubbing/Land Clearing	2	**20**	11	**<1**	**3**	**1**
	Grading/Excavation	4	**46**	30	**<1**	**3**	**2**
	Sewer Line Installation	1	**6**	8	**<1**	**<1**	**<1**
2023	Grading/Excavation	4	41	**29**	<1	3	2
	Sewer Line Installation	1	5	**8**	<1	<1	<1
	Drainage/Utilities/Subgrade	1	11	**16**	<1	1	1
	Building Construction	**2**	15	17	<1	1	1
	Paving	**1**	6	8	<1	<1	<1
	Architectural Coating	**13**	2	3	<1	<1	<1
2024	Building Construction	2	14	17	<1	1	1
	Paving	1	5	8	<1	<1	<1
	Architectural Coating	13	2	3	<1	<1	<1
	Maximum Daily Emissions	**15**	**72**	**53**	**<1**	**6**	**3**
	County SLTs	75	250	550	250	100	55
	Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Modeling files provided in Appendix C.
[1] Totals may not add up exactly because of rounding.
[2] Bold underlined values indicate which phases contribute to maximum daily emissions.

Operations

Long-term emissions would be caused primarily by vehicle trips associated with park visitors, with additional emissions from area sources (e.g., cleaning supplies, architectural coatings, and landscape maintenance equipment). As shown in Table 4.3-6, the project's operational emissions would not exceed County SLTs.

Table 4.3-6. Estimated Maximum Daily Operational ~~Emissions~~

	Maximum Daily Emissions (pounds per day)[1]					
Source	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area	<1	<1	<1	<1	<1	<1
Mobile	<1	2	7	<1	2	<1
Daily Operational Emissions	**1**	**2**	**7**	**<1**	**2.19**	**<1**
County SLTs	75	250	550	250	100	55
Exceeds Thresholds?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Modeling files provided in Appendix C.
[1] Totals may not add up exactly because of rounding.

The SDAB currently has a nonattainment status for the O_3 NAAQS and CAAQS, PM_{10} CAAQS, and $PM_{2.5}$ CAAQS. As shown in Tables 4.3-5 and 4.3-6, the project's construction and operational emissions would be below the County SLTs for all pollutants, including ozone precursors (ROG and NO_X), PM_{10}, and $PM_{2.5}$. Furthermore, project operations would not result in CO hotspots (as discussed under *Threshold 3*, below). Therefore, the project's construction and operations emissions would not result in a cumulatively considerable net increase in criteria pollutants and cumulative impacts would be less than significant.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Threshold 3: The project would not expose sensitive receptors to substantial pollutant concentrations~~?~~.

County Park and Trails and Open Space~~/Preserve~~

Impact Discussion

Construction

As discussed previously, DPM is classified as a carcinogenic TAC by CARB and is the primary pollutant of concern with regard to health risks to sensitive receptors during project construction. Diesel-powered construction equipment as well as heavy duty truck movement and hauling would emit DPM that could potentially expose nearby sensitive receptors to pollutant concentrations. The closest sensitive receptors are residences located adjacent to the northeast and south of the project site across South Grade Road.

Construction activities would be temporary in nature (lasting approximately 16 months) and are expected to occur sporadically throughout the construction duration, which is much shorter than the assumed 70-year exposure period used to estimate lifetime cancer risks. Additionally, development associated with the project would occur throughout the entire 25 acres of the active park, and would not be concentrated along the project boundary for an extended period. Once construction activities have ceased, so too ~~would~~ will the DPM emission sources. Overall, exposure to construction emissions would be nominal.

Operations

Long-term operations of the project would involve operation of a park and use of park amenities. These types of uses would not be associated with TACs.

Carbon Monoxide Hotspots

The project would not place receptors within 500 feet of a signalized intersection with more than 3,000 peak-hour trips that operates at or below LOS E. Likewise, the project would not cause intersections with more than 3,000 intersection peak-hour trips to operate at or below a LOS E. The project therefore satisfies the ~~County of San Diego's~~County's CO hotspot screening criteria.

Impact Determination

Impacts would be less than significant.

Mitigation Measures

No mitigation is required.

Level of Significance After Mitigation

Impacts would be less than significant.

Threshold 4: The project would result in emissions (such as those leading to odors) adversely affecting a substantial number of people~~?~~.

County Park and Trails and Open Space~~/Preserve~~

Impact Discussion

Although offensive odors rarely cause any physical harm, they can be unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and air districts. According to CARB, land uses associated with odor complaints typically include sewage treatment plants, landfills, recycling facilities, waste transfer stations, refineries, biomass operations, autobody shops, coating operations, fiberglass manufacturing, foundries, rendering plants, and livestock operations (CARB 2005a). Odor impacts on residential areas and other sensitive receptors, such as hospitals, daycare centers, and schools, warrant the closest scrutiny, but consideration should also be given to other land uses where people may congregate, such as recreational facilities, work sites, and commercial areas.

Potential odor emitters during construction include diesel exhaust and evaporative emissions generated by asphalt paving and the application of architectural coatings. Construction-related activities near existing receptors would be temporary in nature, and construction activities would not result in nuisance odors. During operations, the project's onsite sewer treatment system and equestrian areas have the potential to generate objectionable odors. The onsite sewer treatment system's septic tank and leach field lines would be buried underground, and would not be a source of odors with proper maintenance and operation.

Equestrian areas located in the northern portion of the project site have the potential to generate objectionable odors due to manure. The equestrian staging area would have receptacles for waste and equestrian manure. Improper handling and storage of manure, along with odor migration, may lead to offsite nuisance violations (**Impact-AQ-1**).

Impact Determination

Impact AQ-1: Objectionable Odors. The project may have potentially significant odor impacts related to manure located in the equestrian staging areas and corrals. Impacts would be potentially significant.

Mitigation Measures

MM-AQ-1: Prepare and Implement a Manure Management Plan. ~~The~~ County DPR shall comply with the following best management practices, which will be documented in a Manure Management Plan:

- The equestrian areas, including the staging area and horse corrals, shall be cleaned at least once per day including the removal of manure.
- Any visible manure throughout the equestrian area and surrounding trails shall be removed and placed either in a manure bin, or a vegetated area (compost).
- Manure stockpiled in receptacles shall be covered with a lid or tarp. Receptacles shall be located at the farthest feasible distance from nearby residents and/or sensitive receptors.

- Equestrian users shall be reminded to pick up after their animals.
- Each manure bin shall be checked for capacity, and the surrounding areas will be kept clean and tidy.

Level of Significance After Mitigation

Impacts would be less than significant.

4.3.5 Summary of Significant Impacts

Table 4.3-7. Summary of Significant Air Quality Impacts and Mitigation Measures

Summary of Potentially Significant Impact(s)	Summary of Mitigation Measure(s)	Level of Significance After Mitigation	Rationale for Finding After Mitigation
Impact AQ-1: Objectionable Odors	**MM-AQ-1: Prepare and Implement a Manure Management Plan**	Less than Significant	Implementation **of MM-AQ-1** and disposal of manure from equestrian areas would reduce manure odors.