

5. Environmental Analysis

5.1 AIR QUALITY

This section of the Draft Environmental Impact Report (EIR) evaluates the potential for the New Fontana Campus Master Plan project (proposed project) to impact air quality in a local and regional context. This evaluation is based on the methodology recommended by the South Coast Air Quality Management District (South Coast AQMD). The analysis focuses on air pollution from regional emissions and localized pollutant concentrations. In this section, “emissions” refers to the actual quantity of pollutant, measured in pounds per day, and “concentrations” refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million, parts per billion, or micrograms per cubic meter.

Criteria air pollutant emissions modeling is included in Appendix B, *Air Quality and Greenhouse Gas Emissions Data*, of this Draft EIR. Transportation-sector impacts are based on trip generation and vehicle miles traveled as provided by Urban Crossroads (see Appendix L). Cumulative impacts related to air quality are based on the regional boundaries of the South Coast Air Basin (SoCAB). An evaluation of localized construction health risks is in Appendix C, *Construction Health Risk Assessment*, of this Draft EIR.

5.1.1 Environmental Setting

5.1.1.1 AIR POLLUTANTS OF CONCERN

Criteria Air Pollutants

The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from sources. Carbon monoxide (CO), volatile organic compounds (VOC), nitrogen oxides (NO_x), sulfur dioxide (SO₂), coarse inhalable particulate matter (PM₁₀), fine inhalable particulate matter (PM_{2.5}), and lead (Pb) are primary air pollutants. Of these, CO, SO₂, nitrogen dioxide (NO₂), PM₁₀, and PM_{2.5} are “criteria air pollutants,” which means that ambient air quality standards (AAQS) have been established for them. VOC and NO_x are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O₃) and NO₂ are the principal secondary pollutants.

Each of the primary and secondary criteria air pollutants and its known health effects are described below.

- **Carbon Monoxide** is a colorless, odorless, toxic gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion, engines and motor vehicles operating at slow speeds are the primary source of CO in the SoCAB. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. The primary adverse health effect associated with CO is interference with normal oxygen transfer to the blood, which may result in tissue oxygen deprivation (South Coast AQMD 2005; US EPA 2022a). The SoCAB is designated as being in attainment under the California AAQS and attainment (serious maintenance) under the National AAQS (CARB 2022a).

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- **Volatile Organic Compounds** are composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of VOCs. Other sources include evaporative emissions from paints and solvents, asphalt paving, and household consumer products such as aerosols (South Coast AQMD 2005). There are no AAQS for VOCs. However, because they contribute to the formation of O₃, South Coast AQMD has established a significance threshold. The health effects for ozone are described later in this section.
- **Nitrogen Oxides** are a byproduct of fuel combustion and contribute to the formation of O₃, PM₁₀, and PM_{2.5}. The two major forms of NO_x are nitric oxide (NO) and NO₂. The principal form of NO₂ produced by combustion is NO, but NO reacts with oxygen to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ acts as an acute irritant and, in equal concentrations, is more injurious than NO. At atmospheric concentrations, however, NO₂ is only potentially irritating. There is some indication of a relationship between NO₂ and chronic pulmonary fibrosis. Some increase in bronchitis in children (two and three years old) has also been observed at concentrations below 0.3 part per million (ppm). NO₂ absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure (South Coast AQMD 2005; US EPA 2022a). On February 21, 2019, the California Air Resources Board (CARB) approved the separation of the area that runs along the State Route 60 corridor through portions of Riverside, San Bernardino, and Los Angeles counties from the remainder of the SoCAB for state nonattainment designation purposes. The Board designated this corridor as nonattainment. The remainder of the SoCAB is in attainment for NO₂ (CARB 2022a).
- **Sulfur Dioxide** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and chemical processes at plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO₂. When sulfur dioxide forms sulfates (SO₄) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_x). Thus, SO₂ is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO₂ may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO₂, ranging from 5 minutes to 24 hours, with an array of adverse respiratory effects, including bronchoconstriction and increased asthma symptoms. These effects are particularly adverse for asthmatics at elevated ventilation rates (e.g., while exercising or playing) at lower concentrations and when combined with particulates, SO₂ may do greater harm by injuring lung tissue. Studies also show a connection between short-term exposure and increased visits to emergency facilities and hospital admissions for respiratory illnesses, particularly in at-risk populations such as children, the elderly, and asthmatics (South Coast AQMD 2005; US EPA 2022a). The SoCAB is designated as attainment under the California and National AAQS (CARB 2022a).
- **Suspended Particulate Matter** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. Two forms of fine particulates are now recognized and regulated. Inhalable coarse particles, or PM₁₀, include particulate matter with an aerodynamic diameter of 10 microns or less (i.e., ≤10 millionths of a meter or 0.0004 inch). Inhalable fine particles, or PM_{2.5}, have an aerodynamic diameter of 2.5 microns or less (i.e., ≤2.5 millionths of a meter or 0.0001 inch). Particulate discharge into the

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atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM₁₀ and PM_{2.5} may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The US Environmental Protection Agency's (EPA) scientific review concluded that PM_{2.5}, which penetrates deeply into the lungs, is more likely than PM₁₀ to contribute to health effects and at far lower concentrations. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing) (South Coast AQMD 2005). There has been emerging evidence that ultrafine particulates, which are even smaller particulates with an aerodynamic diameter of <0.1 microns or less (i.e., ≤0.1 millionths of a meter or <0.000004 inch) have human health implications because their toxic components may initiate or facilitate biological processes that may lead to adverse effects to the heart, lungs, and other organs (South Coast AQMD 2013). However, the EPA and CARB have not adopted AAQS to regulate these particulates. Diesel particulate matter is classified by CARB as a carcinogen (CARB 1998). Particulate matter can also cause environmental effects such as visibility impairment,¹ environmental damage,² and aesthetic damage³ (South Coast AQMD 2005; US EPA 2022a). The SoCAB is a nonattainment area for PM_{2.5} under California and National AAQS and a nonattainment area for PM₁₀ under the California AAQS (CARB 2022a).⁴

- **Ozone**, or O₃, is a key ingredient of “smog” and is a gas that is formed when VOCs and NO_x, both by-products of internal combustion engine exhaust, undergo photochemical reactions in sunlight. O₃ is a secondary criteria air pollutant. O₃ concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O₃ poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O₃ can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O₃ also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O₃ also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O₃ harms sensitive vegetation during the growing season (South Coast AQMD 2005; US EPA 2022a). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2022a).
- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. Once taken into the body, lead distributes throughout the body in the blood and accumulates in the bones. Depending on the level of exposure, lead can adversely affect the nervous system, kidney function, immune system, reproductive and developmental systems, and the cardiovascular system. Lead exposure also affects the

¹ PM_{2.5} is the main cause of reduced visibility (haze) in parts of the United States.

² Particulate matter can be carried over long distances by wind and then settle on ground or water, making lakes and streams acidic; changing the nutrient balance in coastal waters and large river basins; depleting the nutrients in soil; damaging sensitive forests and farm crops; and affecting the diversity of ecosystems.

³ Particulate matter can stain and damage stone and other materials, including culturally important objects such as statues and monuments.

⁴ CARB approved the South Coast AQMD's request to redesignate the SoCAB from serious nonattainment for PM₁₀ to attainment for PM₁₀ under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM₁₀ standards from 2004 to 2007. The EPA approved the State of California's request to redesignate the South Coast PM₁₀ nonattainment area to attainment of the PM₁₀ National AAQS, effective on July 26, 2013.

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oxygen-carrying capacity of the blood. The effects of lead most commonly encountered in current populations are neurological effects in children and cardiovascular effects in adults (e.g., high blood pressure and heart disease). Infants and young children are especially sensitive to even low levels of lead, which may contribute to behavioral problems, learning deficits, and lowered IQ (South Coast AQMD 2005; US EPA 2021a). The major sources of lead emissions have historically been mobile and industrial sources. As a result of the EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector dramatically declined by 95 percent between 1980 and 1999, and levels of lead in the air decreased by 94 percent between 1980 and 1999. Today, the highest levels of lead in air are usually found near lead smelters. The major sources of lead emissions today are ore and metals processing and piston-engine aircraft operating on leaded aviation gasoline. However, in 2008 the EPA and CARB adopted more strict lead standards, and special monitoring sites immediately downwind of lead sources recorded very localized violations of the new state and federal standards.⁵ As a result of these violations, the Los Angeles County portion of the SoCAB is designated nonattainment under the National AAQS for lead (South Coast AQMD 2012; CARB 2022a). Because emissions of lead are found only in projects that are permitted by South Coast AQMD, lead is not a pollutant of concern for the proposed project.

Table 5.1-1, *Criteria Air Pollutant Health Effects Summary*, summarizes the potential health effects associated with the criteria air pollutants.

Table 5.1-1 Criteria Air Pollutant Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	<ul style="list-style-type: none"> Chest pain in heart patients Headaches, nausea Reduced mental alertness Death at very high levels 	Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves
Ozone (O ₃)	<ul style="list-style-type: none"> Cough, chest tightness Difficulty taking a deep breath Worsened asthma symptoms Lung inflammation 	Atmospheric reaction of organic gases with nitrogen oxides in sunlight
Nitrogen Dioxide (NO ₂)	<ul style="list-style-type: none"> Increased response to allergens Aggravation of respiratory illness 	Same as carbon monoxide sources
Particulate Matter (PM ₁₀ and PM _{2.5})	<ul style="list-style-type: none"> Hospitalizations for worsened heart diseases Emergency room visits for asthma Premature death 	Cars and trucks (particularly diesels) Fireplaces and woodstoves Windblown dust from overlays, agriculture, and construction

⁵ Source-oriented monitors record concentrations of lead at lead-related industrial facilities in the SoCAB, which include Exide Technologies in the City of Commerce; Quemetco, Inc., in the City of Industry; Trojan Battery Company in Santa Fe Springs; and Exide Technologies in Vernon. Monitoring conducted between 2004 through 2007 showed that the Trojan Battery Company and Exide Technologies exceed the federal standards (South Coast AQMD 2012).

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Table 5.1-1 Criteria Air Pollutant Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Sulfur Dioxide (SO ₂)	<ul style="list-style-type: none"> Aggravation of respiratory disease (e.g., asthma and emphysema) Reduced lung function 	Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes
Lead (Pb)	<ul style="list-style-type: none"> Behavioral and learning disabilities in children Nervous system impairment 	Contaminated soil

Source: CARB 2022c; South Coast AQMD 2005.

Toxic Air Contaminants

People exposed to toxic air contaminants (TAC) at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems (US EPA 2021b). By the last update to the TAC list in December 1999, CARB had designated 244 compounds as TACs (CARB 1999). Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control. There are no air quality standards for TACs. Instead, TAC impacts are evaluated by calculating the health risks associated with a given exposure. The majority of the estimated health risks from TACs can be attributed to relatively few compounds, the most relevant to the proposed project being particulate matter from diesel-fueled engines.

Diesel Particulate Matter

In 1998, CARB identified diesel particulate matter (DPM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. Long-term (chronic) inhalation of DPM is likely a lung cancer risk. Short-term (i.e., acute) exposure can cause irritation and inflammatory systems and may exacerbate existing allergies and asthma systems (US EPA 2002).

5.1.1.2 REGULATORY BACKGROUND

Ambient air quality standards have been adopted at the state and federal levels for criteria air pollutants. In addition, both the state and federal government regulate the release of TACs. The proposed project is in the SoCAB and is subject to the rules and regulations imposed by the South Coast AQMD, the California AAQS adopted by CARB, and National AAQS adopted by the EPA. Federal, state, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized in this section.

Federal and State

AAQS have been adopted at the state and federal levels for criteria air pollutants. In addition, both the State and federal government regulate the release of TACs. The City of Fontana is in the SoCAB and is subject to

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the rules and regulations imposed by the South Coast AQMD as well as the California AAQS adopted by CARB and National AAQS adopted by the EPA.

Ambient Air Quality Standards

The Clean Air Act (CAA) was passed in 1963 by the US Congress and has been amended several times. The 1970 CAA amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The CAA allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tend to be more restrictive than the National AAQS.

The National and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect “sensitive receptors” most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed.

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 5.1-2, *Ambient Air Quality Standards for Criteria Air Pollutants*. These pollutants are O₃, NO₂, CO, SO₂, PM₁₀, PM_{2.5}, and Pb. In addition, the state has set standards for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards are designed to protect the health and welfare of the populace with a reasonable margin of safety.

Table 5.1-2 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard ¹	Federal Primary Standard ²	Major Pollutant Sources
Ozone (O ₃) ³	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO ₂)	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	

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Table 5.1-2 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard ¹	Federal Primary Standard ²	Major Pollutant Sources
Sulfur Dioxide (SO ₂)	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM ₁₀)	Annual Arithmetic Mean	20 µg/m ³	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m ³	150 µg/m ³	
Respirable Fine Particulate Matter (PM _{2.5}) ⁴	Annual Arithmetic Mean	12 µg/m ³	12 µg/m ³	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m ³	
Lead (Pb)	30-Day Average	1.5 µg/m ³	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m ³	
	Rolling 3-Month Average	*	0.15 µg/m ³	
Sulfates (SO ₄) ⁵	24 hours	25 µg/m ³	*	Industrial processes.
Visibility-Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H ₂ S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.

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Table 5.1-2 Ambient Air Quality Standards for Criteria Air Pollutants

Pollutant	Averaging Time	California Standard ¹	Federal Primary Standard ²	Major Pollutant Sources
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Source: CARB 2016.

Notes: ppm: parts per million; $\mu\text{g}/\text{m}^3$: micrograms per cubic meter

* Standard has not been established for this pollutant/duration by this entity.

¹ California standards for O₃, CO (except 8-hour Lake Tahoe), SO₂ (1 and 24 hour), NO₂, and particulate matter (PM₁₀, PM_{2.5}, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

² National standards (other than O₃, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O₃ 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 PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

³ On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

⁴ On December 14, 2012, the national annual PM_{2.5} 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 PM_{2.5} 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.

⁵ On June 2, 2010, a new 1-hour SO₂ standard was established and the existing 24-hour and annual primary standards were revoked. 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.

California has also adopted a host of other regulations that reduce criteria pollutant emissions:

- **Assembly Bill (AB) 1493: Pavley Fuel Efficiency Standards.** Pavley I is a clean-car standard that reduces greenhouse gas emissions from new passenger vehicles (light-duty auto to medium-duty vehicles) from 2009 through 2016. In January 2012, CARB approved the Advanced Clean Cars program (formerly known as Pavley II) for model years 2017 through 2025.
- **Senate Bill (SB) 1078 and SB 107: Renewables Portfolio Standards.** A major component of California's Renewable Energy Program is the renewables portfolio standard established under SB 1078 (Sher) and SB 107 (Simitian). Under the renewables portfolio standard, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent to reach at least 20 percent by December 30, 2010.
- **20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards.** The 2006 Appliance Efficiency Regulations (20 CCR Sections 1601–1608) were adopted by the California Energy Commission on October 11, 2006, and approved by the California Office of Administrative Law on December 14, 2006. The regulations include standards for both federally regulated appliances and non–federally regulated appliances.

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- **24 CCR, Part 6: Building and Energy Efficiency Standards.** Energy conservation standards for new residential and nonresidential buildings adopted by the California Energy Resources Conservation and Development Commission (now the California Energy Commission) in June 1977.
- **24 CCR, Part 11: Green Building Standards Code.** Establishes planning and design standards for sustainable site development, energy efficiency (in excess of the California Energy Code requirements), water conservation, material conservation, and internal air contaminants.⁶

Tanner Air Toxics Act and Air Toxics Hot Spot Information and Assessment Act

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California legislature enacted a program to identify the health effects of TACs and reduce exposure to them. The California Health and Safety Code defines a TAC as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health” (17 CCR Section 93000). A substance that is listed as a hazardous air pollutant pursuant to section 112(b) of the federal Clean Air Act (42 US Code Section 7412[b]) is a TAC. Under state law, the California Environmental Protection Agency, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). The Tanner Air Toxics Act set up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an “airborne toxics control measure” for sources that emit that TAC. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate “toxics best available control technology” to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- **13 CCR Chapter 10 Section 2485: Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling.** Generally restricts on-road diesel-powered commercial motor vehicles with a gross vehicle weight rating of greater than 10,000 pounds from idling more than five minutes.

⁶ The green building standards became mandatory in the 2010 edition of the code.

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- **13 CCR Chapter 10 Section 2480: Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools.** Generally restricts a school bus or transit bus from idling for more than five minutes when within 100 feet of a school.
- **13 CCR Section 2477 and Article 8: Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate.** Regulations established to control emissions associated with diesel-powered TRUs.

Regional

The state is divided into air pollution control districts/air quality management districts. These agencies are county or regional governing authorities that have primary responsibility for controlling air pollution from stationary sources. CARB and local air districts are also responsible for developing clean air plans to demonstrate how and when California will attain AAQS established under both the federal and California Clean Air Acts. For the areas in California that have not attained air quality standards, CARB works with air districts to develop and implement state and local attainment plans. In general, attainment plans contain a discussion of ambient air quality data and trends; a baseline emissions inventory; future year projections of emissions, which account for growth projections and already adopted control measures; a comprehensive control strategy of additional measures needed to reach attainment; an attainment demonstration, which generally involves complex modeling; and contingency measures. Plans may also include interim milestones for progress toward attainment. The SoCAB is managed by the South Coast AQMD.

Air Quality Management Planning

South Coast AQMD is the agency responsible for improving air quality in the SoCAB and ensuring that the National and California AAQS are attained and maintained. South Coast AQMD is responsible for preparing the air quality management plan (AQMP) for the SoCAB in coordination with the Southern California Association of Governments (SCAG). Since 1979, a number of AQMPs have been prepared.

2016 AQMP

On March 3, 2017, South Coast AQMD adopted the 2016 AQMP, which serves as an update to the 2012 AQMP. The 2016 AQMP addresses strategies and measures to attain the following National AAQS:

- 2008 National 8-hour ozone standard by 2031
- 2012 National annual PM_{2.5} standard by 2025⁷
- 2006 National 24-hour PM_{2.5} standard by 2019
- 1997 National 8-hour ozone standard by 2023
- 1979 National 1-hour ozone standard by 2022

It is projected that total NO_x emissions in the SoCAB would need to be reduced to 150 tons per day (tpd) by year 2023 and to 100 tpd in year 2031 to meet the 1997 and 2008 federal 8-hour ozone standards. The strategy to meet the 1997 federal 8-hour ozone standard would also lead to attaining the 1979 federal 1-hour ozone

⁷ The 2016 AQMP requests a reclassification from moderate to serious nonattainment for the 2012 National PM_{2.5} standard.

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standard by year 2022 (South Coast AQMD 2017), which requires reducing NO_x emissions in the SoCAB to 250 tpd. This is approximately 45 percent additional reductions beyond existing regulations for the 2023 ozone standard and 55 percent additional reductions to existing regulations to meet the 2031 ozone standard.

Reducing NO_x emissions would also reduce PM_{2.5} concentrations in the SoCAB. However, because the goal is to meet the 2012 federal annual PM_{2.5} standard no later than year 2025, South Coast AQMD is seeking to reclassify the SoCAB from “moderate” to “serious” nonattainment under this federal standard. A “moderate” nonattainment would require meeting the 2012 federal standard by no later than 2021.

Overall, the 2016 AQMP is composed of stationary and mobile-source emission reductions from regulatory control measures, incentive-based programs, co-benefits from climate programs, mobile-source strategies, and reductions from federal sources, such as aircrafts, locomotives, and ocean-going vessels. Strategies outlined in the 2016 AQMP would be implemented in collaboration between CARB and the EPA (South Coast AQMD 2017).

2022 AQMP

On October 1, 2015, the EPA strengthened the National AAQS for ground-level ozone, lowering the primary and secondary ozone standard levels to 70 parts per billion (ppb) from 75 ppb. The SoCAB is classified as an “extreme” nonattainment area for the 2015 National AAQS for ozone. In May 2022, South Coast released the Draft 2022 AQMP to address the requirements for meeting this standard. The Draft 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emission technologies, when cost-effective and feasible, and low NO_x technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other CAA measures to achieve the 2015 8-hour ozone standard. The 2015 8-hour ozone standard is the most stringent standard to date. Because current ozone levels in the SoCAB are so high, meeting the standard will require substantial emission reductions above and beyond current programs. South Coast AQMD forecasts that emissions of NO_x—the key pollutant controlling formation of ozone—must be reduced by 71 percent beyond what we would achieve through current programs by 2037 to meet the standard. By year 2037, 42 percent of NO_x emissions will come from federal sources, 39 percent will come from State-regulated sources, and only 19 percent will come from sources regulated by the South Coast AQMD (South Coast AQMD 2022). As of December 2022, the Draft 2022 AQMP has been adopted.

Lead Implementation Plan

In 2008, the EPA designated the Los Angeles County portion of the SoCAB as a nonattainment area under the federal lead (Pb) classification because of the addition of source-specific monitoring under the new federal regulation. This designation was based on two source-specific monitors in the City of Vernon and the City of Industry that exceeded the new standard in the 2007 to 2009 period. The remainder of the SoCAB, outside the Los Angeles County nonattainment area, remains in attainment of the new 2008 lead standard. On May 24, 2012, CARB approved the State Implementation Plan (SIP) revision for the federal lead standard, which the EPA revised in 2008. Lead concentrations in this nonattainment area have been below the level of the federal standard since December 2011. The SIP revision was submitted to the EPA for approval.

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South Coast AQMD PM_{2.5} Redesignation Request and Maintenance Plan

In 1997, the EPA adopted the 24-hour fine PM_{2.5} standard of 65 micrograms per cubic meter ($\mu\text{g}/\text{m}^3$). In 2006, this standard was lowered to a more health-protective level of 35 $\mu\text{g}/\text{m}^3$. The SoCAB is designated nonattainment for both the 65 and 35 $\mu\text{g}/\text{m}^3$ 24-hour PM_{2.5} standards (24-hour PM_{2.5} standards). In 2020, monitored data demonstrated that the SoCAB attained both 24-hour PM_{2.5} standards. The South Coast AQMD has developed the 2021 Redesignation Request and Maintenance Plan for the 1997 and 2006 24-hour PM_{2.5} Standards demonstrating that the SoCAB has met the requirements to be redesignated to attainment for the 24-hour PM_{2.5} standards (South Coast AQMD 2021b).

AB 617, Community Air Protection Program

Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017) requires local air districts to monitor and implement air pollution control strategies that reduce localized air pollution in communities that bear the greatest burdens. In response to AB 617, CARB has established the Community Air Protection Program.

Air districts are required to host workshops to help identify disadvantaged communities disproportionately affected by poor air quality. Once the criteria for identifying the highest priority locations have been identified and the communities have been selected, new community monitoring systems would be installed to track and monitor community-specific air pollution goals. In 2018 CARB prepared an air monitoring plan (Community Air Protection Blueprint) that evaluates the availability and effectiveness of air monitoring technologies and existing community air monitoring networks. Under AB 617, the Blueprint is required to be updated every five years.

Under AB 617, CARB is also required to prepare a statewide strategy to reduce TACs and criteria pollutants in impacted communities; provide a statewide clearinghouse for best available retrofit control technology; adopt new rules requiring the latest best available retrofit control technology for all criteria pollutants for which an area has not achieved attainment of California AAQS; and provide uniform, statewide reporting of emissions inventories. Air districts are required to adopt a community emissions reduction program to achieve reductions for the communities impacted by air pollution that CARB identifies.

South Coast AQMD Rules and Regulations

All projects are subject to South Coast AQMD rules and regulations in effect at the time of activity, including:

- **Rule 401, Visible Emissions.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in visible emissions. Specifically, the rule prohibits the discharge of any air contaminant into the atmosphere by a person from any single source of emission for a period or periods aggregating more than three minutes in any one hour that is as dark as or darker than designated No. 1 on the Ringelmann Chart, as published by the US Bureau of Mines.
- **Rule 402, Nuisance.** This rule is intended to prevent the discharge of pollutant emissions from an emissions source that results in a public nuisance. Specifically, this rule prohibits any person from discharging quantities of air contaminants or other material from any source such that it would result in an injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public.

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Additionally, the discharge of air contaminants would also be prohibited where it would endanger the comfort, repose, health, or safety of any number of persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule does not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

- **Rule 403, Fugitive Dust.** This rule is intended to reduce the amount of particulate matter entrained in the ambient air as a result of anthropogenic (human-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. Rule 403 applies to any activity or human-made condition capable of generating fugitive dust and requires best available control measures to be applied to earth-moving and grading activities.
- **Rule 445, Wood Burning Devices.** In general, the rule prohibits new developments from the installing wood-burning devices. This rule is intended to reduce the emission of particulate matter from such devices and applies to manufacturers and sellers of wood-burning devices, commercial sellers of firewood, and property owners and tenants that operate a wood-burning device.
- **Rule 1113, Architectural Coatings.** This rule serves to limit the VOC content of architectural coatings used on projects in the South Coast AQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the South Coast AQMD must comply with the current VOC standards in this rule.
- **Rule 1403, Asbestos Emissions from Demolition/Renovation Activities.** The purpose of this rule is to specify work practice requirements to limit asbestos emissions from building demolition and renovation activities, including the removal and associated disturbance of asbestos-containing materials (ACM). The requirements for demolition and renovation activities include asbestos surveying, notification, ACM removal procedures and time schedules, ACM handling and clean-up procedures, and storage, disposal, and landfilling requirements for asbestos-containing waste materials. All operators are required to maintain records, including waste shipment records, and are required to use appropriate warning labels, signs, and markings.

5.1.1.3 EXISTING CONDITIONS

The project site is in the SoCAB, which includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino counties. The SoCAB is in a coastal plain with connecting broad valleys and low hills and is bounded by the Pacific Ocean in the southwest quadrant, with high mountains forming the remainder of the perimeter. The region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. This usually mild weather pattern is interrupted infrequently by periods of extremely hot weather, winter storms, and Santa Ana winds (South Coast AQMD 2005).

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Meteorology

Temperature and Precipitation

The annual average temperature varies little throughout the SoCAB, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station nearest to the project site that best represents the climatological conditions of the project site is the Fontana Kaiser, California Monitoring Station (ID 043120). The average low temperature is reported as 44.0°F in January, and the average high temperature is 95.0°F in July (WRCC 2022).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from November through April. Rainfall averages 15.32 inches per year in the vicinity of the project site (WRCC 2022).

Humidity

Although the SoCAB has a semiarid climate, the air near the Earth's surface is typically moist because of a shallow marine layer. This "ocean effect" is dominant except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds. Periods of heavy fog are frequent, given the project site's location along the coast. Low clouds, often referred to as high fog, are a characteristic climatic feature. Annual average humidity is 70 percent at the coast and 57 percent in the eastern portions of the SoCAB (South Coast AQMD 1993).

Wind

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

Between periods of wind, periods of air stagnation may occur in the morning and evening hours. Air stagnation is one of the critical determinants of air quality conditions on any given day. During the winter and fall months, surface high-pressure systems over the SoCAB combined with other meteorological conditions can result in very strong, downslope Santa Ana winds. These winds normally continue a few days before predominant meteorological conditions are reestablished.

The mountain ranges to the east inhibit the eastward transport and diffusion of pollutants. Air quality in the SoCAB generally ranges from fair to poor and is similar to air quality in most of coastal Southern California. The entire region experiences heavy concentrations of air pollutants during prolonged periods of stable atmospheric conditions (South Coast AQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, two distinct types of temperature inversions control the vertical depth through which

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pollutants are mixed. These inversions are the marine/subsidence inversion and the radiation inversion. The height of the base of the inversion at any given time is known as the “mixing height.” The combination of winds and inversions are critical determinants in leading to the highly degraded air quality in summer and the generally good air quality in the winter in the project area (South Coast AQMD 2005).

SoCAB Nonattainment Areas

The AQMP provides the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards through the SIP. Areas are classified as attainment or nonattainment areas for particular pollutants depending on whether they meet the AAQS. Severity classifications for ozone nonattainment range in magnitude from marginal, moderate, and serious to severe and extreme.

- **Unclassified.** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment.** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment.** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional.** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SoCAB is shown in Table 5.1-3, *Attainment Status of Criteria Air Pollutants in the South Coast Air Basin*.

Table 5.1-3 Attainment Status of Criteria Air Pollutants in the South Coast Air Basin

Pollutant	State	Federal
Ozone – 1-hour	Extreme Nonattainment	No Federal Standard
Ozone – 8-hour	Extreme Nonattainment	Extreme Nonattainment
PM ₁₀	Serious Nonattainment	Attainment
PM _{2.5}	Nonattainment	Nonattainment ²
CO	Attainment	Attainment
NO ₂	Nonattainment (SR-60 Near Road only) ¹	Attainment/Maintenance
SO ₂	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only) ³
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2022a.

¹ On February 21, 2019, CARB’s Board approved the separation of the area that runs along State Route 60 corridor through portions of Riverside, San Bernardino, and Los Angeles counties from the remainder of the SoCAB for State nonattainment designation purposes. The Board designated this corridor as nonattainment. The remainder of the SoCAB remains in attainment for NO₂ (CARB 2019). CARB is proposing to redesignate SR-60 Near-Road Portion of San Bernardino, Riverside, and Los Angeles Counties in the SoCAB as attainment for NO₂ at the February 24, 2022 Board Hearing (CARB 2022b).

² The SoCAB is pending a resignation request from nonattainment to attainment for the 24-hour federal PM_{2.5} standards. The 2021 PM_{2.5} Redesignation Request and Maintenance Plan demonstrates that the South Coast meets the requirements of the CAA to allow EPA to redesignate the SoCAB to attainment for the 65 µg/m³ and 35 µg/m³ 24-hour PM_{2.5} standards. CARB will submit the 2021 PM_{2.5} Redesignation Request to the EPA as a revision to the California SIP (CARB 2021a).

³ In 2010, the Los Angeles portion of the SoCAB was designated nonattainment for lead under the new 2008 federal AAQS as a result of large industrial emitters. Remaining areas in the SoCAB are unclassified.

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Multiple Air Toxics Exposure Study V

The Multiple Air Toxics Exposure Study (MATES) is a monitoring and evaluation study on existing ambient concentrations of TACs and the potential health risks from air toxics in the SoCAB. In April 2021, South Coast AQMD released the latest update to the MATES study, MATES V. The first MATES analysis, MATES I, began in 1986 but was limited because of the technology available at the time. Conducted in 1998, MATES II was the first MATES iteration to include a comprehensive monitoring program, an air toxics emissions inventory, and a modeling component. MATES III was conducted in 2004 to 2006, with MATES IV following in 2012 to 2013.

MATES V uses measurements taken during 2018 and 2019, with a comprehensive modeling analysis and emissions inventory based on 2018 data. The previous MATES studies quantified the cancer risks based on the inhalation pathway only. MATES V includes information on the chronic noncancer risks from inhalation and non-inhalation pathways for the first time. Cancer risks and chronic noncancer risks from MATES II through IV measurements have been re-examined using current Office of Environmental Health Hazards Assessment and California Environmental Protection Agency risk assessment methodologies and modern statistical methods to examine the trends over time.

The MATES V study showed that cancer risk in the SoCAB decreased to 454 in a million from 997 in a million in the MATES IV study. Overall, air toxics cancer risk in the SoCAB decreased by 54 percent since 2012 when MATES IV was conducted. MATES V showed the highest risk locations near the Los Angeles International Airport and the Ports of Long Beach and Los Angeles. DPM continues to be the major contributor to air toxics cancer risk (approximately 72 percent of the total cancer risk). Goods movement and transportation corridors have the highest cancer risk. Transportation sources account for 88 percent of carcinogenic air toxics emissions, and the remainder is from stationary sources, which include large industrial operations such as refineries and power plants as well as smaller businesses such as gas stations and chrome-plating facilities. (South Coast AQMD 2021).

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the project site are best documented by measurements taken by the South Coast AQMD. The proposed project is located within Source Receptor Area (SRA) 34: Central San Bernardino Valley.⁸ The air quality monitoring station closest to the proposed project is the Fontana–Arrow Highway Monitoring Station, which is one of 31 monitoring stations South Coast AQMD operates and maintains within the SoCAB.⁹ Data from this station includes O₃, NO₂, PM₁₀, and PM_{2.5} and is summarized in Table 5.1-4, *Ambient Air Quality Monitoring Summary*. The data show regular violations of the state and federal O₃, state PM₁₀, and federal PM_{2.5} standards in the last five years.

⁸ Per South Coast AQMD Rule 701, an SRA is defined as: “A source area is that area in which contaminants are discharged and a receptor area is that area in which the contaminants accumulate and are measured. Any of the areas can be a source area, a receptor area, or both a source and receptor area.” There are 37 SRAs in the South Coast AQMD’s jurisdiction.

⁹ Locations of the SRAs and monitoring stations are shown here: <http://www.aqmd.gov/docs/default-source/default-document-library/map-of-monitoring-areas.pdf>.

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Table 5.1-4 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Thresholds Were Exceeded and Maximum Levels ^{1,2}				
	2017	2018	2019	2020	2021
Ozone (O₃)					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	33	38	41	56	44
State & Federal 8-hour ≥ 0.070 ppm (days exceed threshold)	49	69	67	89	81
Max. 1-Hour Conc. (ppm)	0.137	0.141	0.124	0.151	0.125
Max. 8-Hour Conc. (ppm)	0.118	0.111	0.109	0.111	0.103
Nitrogen Dioxide (NO₂)					
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.0692	0.0630	0.0761	0.0664	0.0672
Coarse Particulates (PM₁₀)					
State 24-Hour > 50 µg/m ³ (days exceed threshold)	8	8	11	6	3
Federal 24-Hour > 150 µg/m ³ (days exceed threshold)	0	0	0	0	0
Max. 24-Hour Conc. (µg/m ³)	75.3	64.1	88.8	76.8	73.8
Fine Particulates (PM_{2.5})					
Federal 24-Hour > 35 µg/m ³ (days exceed threshold)	1	0	3	4	2
Max. 24-Hour Conc. (µg/m ³)	39.2	29.2	81.3	57.6	55.1

Source: CARB 2022e.

Notes: ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter; * = Data not available

¹ Data obtained from the Fontana–Arrow Highway Monitoring Station

² Most recent data available as of December 2022.

Existing Emissions

The existing Chaffey Community College Fontana Campus currently contains approximately 56,000 square feet of developed structures in addition to parking areas, landscape, and hardscape. As seen on Table 5.1-5, *Existing Fontana Campus Criteria Air Pollutant Emissions*, the existing campus generates criteria air pollutant emissions from area sources, energy use, and mobile sources. The project site for the new Fontana Campus is currently vacant and does not generate criteria air pollutant emissions.

Table 5.1-5 Existing Fontana Campus Criteria Air Pollutant Emissions

Phase	Operation-Related Regional Emissions (pounds/day) ¹					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Year 2021						
Area	1	<1	<1	<1	<1	<1
Energy ²	<1	<1	<1	<1	<1	<1
Mobile	16	23	156	<1	29	8
Total	18	23	156	<1	29	8

Sources: CalEEMod Version 2020.4. (Appendix B)

Notes: Based on highest winter or summer emissions.

¹ Includes only those pollutants in which South Coast AQMD have established regional significance thresholds and that are applicable. Thus, emissions data for ozone and lead are omitted. Additionally, because the proposed project does not involve a large permitted industrial project where South Coast AQMD is the lead agency, lead (Pb) is not a pollutant of concern.

² Utilizes CalEEMod historical energy rates, which are based on the 2005 Building Energy Efficiency Standards.

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Sensitive Receptors

Some land uses are considered more sensitive to air pollution (i.e., TACs) than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are also considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Other sensitive receptors include retirement facilities, hospitals, and schools. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial, commercial, retail, and office areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent because the majority of workers tend to stay indoors most of the time. In addition, the workforce is generally the healthiest segment of the population.

The nearest off-site sensitive receptors to the project site include residences to the east along Sierra Avenue and White Oak Lane, to the west along Juniper Avenue, and south along Jurupa Avenue.

5.1.2 Thresholds of Significance

According to Appendix G of the CEQA Guidelines, a project would normally have a significant effect on the environment if the project would:

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

5.1.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

Regional Significance Thresholds

South Coast AQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB, shown in Table 5.1-6, *South Coast AQMD Significance Thresholds*. The table lists thresholds that are applicable for all projects uniformly, regardless of size or scope. There is growing evidence that although ultrafine particulate matter contributes a very small portion of the overall atmospheric mass concentration, it represents a greater proportion of the health risk from PM. However, the EPA and CARB have not adopted AAQS to regulate ultrafine particulate matter; therefore, South Coast AQMD has not developed thresholds for it.

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Table 5.1-6 South Coast AQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)	75 pounds (lbs)/day	55 lbs/day
Nitrogen Oxides (NO _x)	100 lbs/day	55 lbs/day
Carbon Monoxide (CO)	550 lbs/day	550 lbs/day
Sulfur Oxides (SO _x)	150 lbs/day	150 lbs/day
Particulates (PM ₁₀)	150 lbs/day	150 lbs/day
Particulates (PM _{2.5})	55 lbs/day	55 lbs/day

Source: South Coast AQMD 2019.

Projects that exceed the regional significance threshold contribute to the nonattainment designation of the SoCAB. The attainment designations are based on the AAQS, which are set at levels of exposure that are determined to not result in adverse health effects. Exposure to fine particulate pollution and ozone causes myriad health impacts, particularly to the respiratory and cardiovascular systems:

- Increases cancer risk (PM_{2.5}, TACs)
- Aggravates respiratory disease (O₃, PM_{2.5})
- Increases bronchitis (O₃, PM_{2.5})
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O₃)
- Reduces resistance to infections and increases fatigue (O₃)
- Reduces lung growth in children (PM_{2.5})
- Contributes to heart disease and heart attacks (PM_{2.5})
- Contributes to premature death (O₃, PM_{2.5})
- Contributes to lower birth weight in newborns (PM_{2.5}) (South Coast AQMD 2015a)

Exposure to fine particulates and ozone aggravates asthma attacks and can amplify other lung ailments such as emphysema and chronic obstructive pulmonary disease. Exposure to current levels of PM_{2.5} is responsible for an estimated 4,300 cardiopulmonary-related deaths per year in the SoCAB. In addition, University of Southern California scientists, in a landmark children’s health study, found that lung growth improved as air pollution declined for children aged 11 to 15 in five communities in the SoCAB (South Coast AQMD 2015b).

South Coast AQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals exposed to elevated concentrations of air pollutants in the SoCAB and has established thresholds that would be protective of these individuals. To achieve the health-based standards established by the EPA, South Coast AQMD prepares an AQMP that details regional programs to attain the AAQS. Mass emissions shown in Table 5.1-6 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. The thresholds are based on the trigger levels for the federal New Source Review Program, which was created to ensure projects are consistent with attainment of health-based federal AAQS. Regional emissions from a single project do not single-handedly trigger a regional health impact, and it

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is speculative to identify how many more individuals in the air basin would be affected by the health effects listed previously. Projects that do not exceed the South Coast AQMD regional significance thresholds in Table 5.1-6 would not violate any air quality standards or contribute substantially to an existing or projected air quality violation.

If projects exceed the emissions in Table 5.1-6, emissions would cumulatively contribute to the nonattainment status and would contribute to elevating health effects associated with these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants. However, for projects that exceed the emissions in Table 5.1-6, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the air basin would be affected by the health effects cited previously.

South Coast AQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health to address the issue raised in *Sierra Club v. County of Fresno (Friant Ranch, L.P.)* (2018) 6 Cal.5th 502, Case No. S21978. Ozone concentrations are dependent on a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National AAQS and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. However, if a project in the SoCAB exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until the attainment standards are met in the SoCAB.

CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. With the turnover of older vehicles and introduction of cleaner fuels, as well as implementation of control technology on industrial facilities, CO concentrations in the SoCAB and the state have steadily declined.

In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hotspot analysis conducted for attainment by South Coast AQMD did not predict a violation of CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon periods.¹⁰ As

¹⁰ The four intersections were: Long Beach Boulevard and Imperial Highway; Wilshire Boulevard and Veteran Avenue; Sunset Boulevard and Highland Avenue; and La Cienega Boulevard and Century Boulevard. The busiest intersection evaluated (Wilshire and Veteran) had a daily traffic volume of approximately 100,000 vehicles per day with LOS E in the morning peak hour and LOS F in the evening peak hour.

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identified in South Coast AQMD’s 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan), peak carbon monoxide concentrations in the SoCAB in years before redesignation were a result of unusual meteorological and topographical conditions and not of congestion at a particular intersection. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—to generate a significant CO impact (BAAQMD 2017).¹¹

Localized Significance Thresholds

South Coast AQMD identifies localized significance thresholds (LST), shown in Table 5.1-7, *South Coast AQMD Localized Significance Thresholds*. Emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at a project site could expose sensitive receptors to substantial concentrations of criteria air pollutants. Off-site mobile-source emissions are not included in the LST analysis. A project would generate a significant impact if it generates emissions that, when added to the local background concentrations, violate the AAQS.

Table 5.1-7 South Coast AQMD Localized Significance Thresholds

Air Pollutant (Relevant AAQS)	Concentration
1-Hour CO Standard (CAAQS)	20 ppm
8-Hour CO Standard (CAAQS)	9.0 ppm
1-Hour NO ₂ Standard (CAAQS)	0.18 ppm
Annual NO ₂ Standard (CAAQS)	0.03 ppm
24-Hour PM ₁₀ Standard – Construction (South Coast AQMD) ¹	10.4 µg/m ³
24-Hour PM _{2.5} Standard – Construction (South Coast AQMD) ¹	10.4 µg/m ³
24-Hour PM ₁₀ Standard – Operation (South Coast AQMD) ¹	2.5 µg/m ³
24-Hour PM _{2.5} Standard – Operation (South Coast AQMD) ¹	2.5 µg/m ³
Annual Average PM ₁₀ Standard (South Coast AQMD) ¹	1.0 µg/m ³

Source: South Coast AQMD 2019.

ppm – parts per million; µg/m³ – micrograms per cubic meter

¹ Threshold is based on South Coast AQMD Rule 403. Since the SoCAB is in nonattainment for PM₁₀ and PM_{2.5}, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

To assist lead agencies, South Coast AQMD developed screening-level LSTs to back-calculate the mass amount (pounds per day) of emissions generated on-site that would trigger the levels shown in Table 5.1-7 for projects under five acres. These “screening-level” LST tables are the LSTs for all projects of five acres and less and are

¹¹ The CO hotspot analysis refers to the modeling conducted by the Bay Area Air Quality Management District for its CEQA Guidelines because it is based on newer data and considers the improvement in mobile-source CO emissions. Although meteorological conditions in the Bay Area differ from those in the Southern California region, the modeling conducted by BAAQMD demonstrates that the net increase in peak hour traffic volumes at an intersection in a single hour would need to be substantial. This finding is consistent with the CO hotspot analysis South Coast AQMD prepared as part of its 2003 AQMP to provide support in seeking CO attainment for the SoCAB. Based on the analysis prepared by South Coast AQMD, no CO hotspots were predicted for the SoCAB. As noted in the preceding footnote, the analysis included some of Los Angeles’ busiest intersections, with daily traffic volumes of 100,000 or more peak hour vehicle trips operating at LOS E and F.

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based on emissions over an 8-hour period; however, they can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required.

The screening-level LSTs in SRA 34 are shown in Table 5.1-8, *South Coast AQMD Screening-Level Localized Significance Thresholds*. For construction activities, LSTs are based on the acreage disturbed per day based on equipment use (South Coast AQMD 2011) up to the project site acreage. The screening-level LSTs reflect the thresholds for receptors, who would be on-site less than 24 hours per day (e.g., employees of neighboring businesses), within 82 feet (25 meters) for NO_x and CO; and receptors who could potentially be on-site for up to 24 hours per day (e.g., residential uses), which are at 160 feet (49 meters) for PM₁₀ and PM_{2.5}.

Table 5.1-8 South Coast AQMD Screening-Level Localized Significance Thresholds

Acreage Disturbed	Localized Significance Threshold (lbs/day)			
	Nitrogen Oxides (NO _x)	Carbon Monoxide (CO)	Coarse Particulates (PM ₁₀)	Fine Particulates (PM _{2.5})
≤1.00 Acre Disturbed Per Day	118	667	12.56	4.90
1.31 Acres Disturbed Per Day	134	762	15.28	5.21
3.50 Acres Disturbed Per Day	220	1,359	31.89	7.90
4.00 Acres Disturbed Per Day	237	1,488	35.43	8.57
≥5.00 Acres Disturbed Per Day	270	1,746	42.52	9.90

Source: South Coast AQMD 2008a, 2011.
 The screening-level LSTs are based on sensitive receptors with exposure durations less than 24-hours within 82 feet (25 meters) for NO_x and CO; and receptors within 160 feet (49 meters) of the project site for PM₁₀ and PM_{2.5}.

Health Risk

Whenever a project would require use of chemical compounds that have been identified in South Coast AQMD Rule 1401, placed on CARB's air toxics list pursuant to AB 1807, or placed on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the South Coast AQMD. Table 5.1-9, *South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds*, lists the TAC incremental risk thresholds for operation of a project. This environmental evaluation identifies the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project (*California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 [Case No. S213478]). However, the environmental document must analyze the impacts of environmental hazards on future users when a proposed project exacerbates an existing environmental hazard or condition. Residential, commercial, and office uses do not use substantial quantities of TACs and typically do not exacerbate existing hazards, so these thresholds are typically applied to new industrial projects.

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Table 5.1-9 South Coast AQMD Toxic Air Contaminants Incremental Risk Thresholds

Maximum Incremental Cancer Risk	≥ 10 in 1 million
Cancer Burden (in areas ≥ 1 in 1 million)	> 0.5 excess cancer cases
Hazard Index (project increment)	≥ 1.0

Source: South Coast AQMD 2019.

5.1.3 Plans, Programs, and Policies

Plans, programs, and policies (PPP), including applicable regulatory requirements and project design features for air quality, are identified below.

PPP AIR-1 New buildings are required to achieve the current California Building Energy Efficiency Standards (Title 24, Part 6) and California Green Building Standards Code (CALGreen) (Title 24, Part 11). The 2022 Building Energy Efficiency Standards became effective on January 1, 2023. The Building Energy Efficiency Standards and CALGreen are updated tri-annually with a goal to achieve zero net energy for residential buildings by 2020 and nonresidential buildings by 2030.

PPP AIR-2 New buildings are required to adhere to the California Green Building Standards Code (CALGreen) requirement to provide bicycle parking for new nonresidential buildings, or meet local bicycle parking ordinances, whichever is stricter (CALGreen Sections 5.106.4.1, 14.106.4.1, and 5.106.4.1.2).

PPP AIR-3 Construction activities will be conducted in compliance with 13 California Code of Regulations (CCR) Section 2499, which requires that nonessential idling of construction equipment is restricted to five minutes or less.

PPP AIR-4 Construction activities will be conducted in compliance with any applicable South Coast Air Quality Management District (South Coast AQMD) rules and regulations, including but not limited to the following:

- Rule 403, Fugitive Dust, for controlling fugitive dust and avoiding nuisance.
- Rule 402, Nuisance, which states that a project shall not “discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.”
- Rule 1113, which limits the volatile organic compound content of architectural coatings.

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- PPP AIR-5 The heavy-heavy duty tractors and trailers (i.e., trucks that are 53 feet or longer) must use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies in accordance with CARB's Heavy-Duty (Tractor-Trailer) GHG [greenhouse gas] Regulation. Owners are responsible for replacing or retrofitting their affected vehicles with compliant aerodynamic technologies and low-rolling-resistance tires. Sleeper cab tractors model year 2011 and later must be SmartWay certified. All other tractors must use SmartWay verified low-rolling-resistance tires. Trailers must have low-rolling-resistance tires and aerodynamic devices.
- PPP AIR-6 The medium-duty and heavy-duty vehicle engines are required to comply with the EPA's GHG and fuel efficiency standards. The federal and California Phase 1 standards took effect with model year 2014 tractors, vocational vehicles, and heavy-duty pick-up trucks and vans and the engines powering such vehicles (the Phase 1 standards excludes trailers). The federal Phase 2 standards cover model years 2018 to 2027 for certain trailers and model years 2021 to 2027 for semi trucks and large pick-up trucks, vans, and all types and sizes of buses and work trucks. California is aligned with the federal Phase 2 standards in structure, timing, and stringency, but with some minor California differences. The California Phase 2 regulations became effective April 1, 2019.

5.1.4 Environmental Impacts

5.1.4.1 METHODOLOGY

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the proposed project. South Coast AQMD's *CEQA Air Quality Handbook* (Handbook) and updates on its website are intended to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in environmental impact reports, and they were used in this analysis.

Criteria Air Pollutant Emissions

Air pollutant emissions are calculated using the California Emissions Estimator Model (CalEEMod), version 2020.4 (CAPCOA 2021). CalEEMod compiles an emissions inventory of construction (fugitive dust, off-gas emissions, on-road emissions, and off-road emissions), area sources, indirect emissions from energy use, mobile sources, indirect emissions from waste disposal (annual only), and indirect emissions from water/wastewater (annual only). Criteria air pollutant emissions modeling is included in Appendix B of this Draft EIR. The calculated emissions of the proposed project are compared to thresholds of significance for individual projects using the South Coast AQMD's Handbook. Following is a summary of the assumptions used for the proposed project analysis.

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Construction Phase

Construction would entail site preparation and soil haul, rough and fine grading, utilities trenching, construction of the proposed structures and buildings, architectural coating, and asphalt paving on 14.30 acres of the project site over two construction phases. The proposed project was conservatively modeled over a construction period of up to six years, from 2024 to 2030, in two phases.

Operational Phase

Following completion of the two construction phases, the campus would operate in a manner similar to the existing Fontana campus. Enrollment, staffing, and types of activities used by the college would operate in the same manner as existing conditions. Three main sources of emissions are associated with operation: transportation, area sources, and energy consumption.

- **Transportation.** The primary source of mobile criteria air pollutant emissions is tailpipe exhaust emissions from the combustion of fuel (i.e., gasoline and diesel). For particulate matter, brake and tire wear and fugitive dust are created by vehicles traveling on roadways. Per Urban Crossroads, the existing campus generates approximately 4,188 average daily vehicle trips during the weekday, and the proposed project would generate an additional 5,170 average daily trips. Transportation criteria pollutant emissions assumed a project baseline year of 2022 and buildout year of 2030.
- **Area Sources.** Area source emissions from use of consumer cleaning products, landscaping equipment, and VOC emissions from paints for the proposed project are based on CalEEMod default emission rates and the assumed building square footages.
- **Energy.** Criteria air pollutant emissions from energy use (natural gas used for cooking, heating, etc.) are based on the CalEEMod defaults for natural gas usage for nonresidential land uses. Criteria air pollutant emissions from energy use are associated with natural gas used for heating.
- **Off-Road.** Criteria air pollutant emissions from off-road equipment use are associated with operation of welders on the project site and are based on the number of seats for the welding class and hours from the District.

Construction Health Risk Assessment

A construction health risk assessment (HRA) from TACs and PM_{2.5} associated with construction equipment exhaust was prepared for the project and is included in Appendix C of this Draft EIR. Sources evaluated in the HRA include off-road construction equipment and heavy-duty diesel trucks along the truck route. Modeling is based on the EPA's AERMOD air dispersion modeling program and the latest HRA guidance from the Office of Environmental Health Hazard Assessment to estimate excess lifetime cancer risks, chronic noncancer hazard indices, and the PM_{2.5} maximum annual concentrations at the nearest maximum exposed off-site sensitive receptors (residences and preschool students at Kiddie Academy) and assumes 24-hour outdoor exposure with risks averaged over a 70-year lifetime.

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DPM emissions were based on the CalEEMod construction runs, using annual exhaust PM₁₀ construction emissions presented in pounds (lbs) per day. The PM_{2.5} emissions were taken from the CalEEMod output for exhaust PM_{2.5} also presented in lbs per day. The project was assumed to take place over approximately six years (1,197 workdays) from beginning of September 2024 to June 2030. The average daily emission rates from construction equipment used during the proposed project were determined by dividing the annual average emissions for each construction year by the number of construction days per year for each calendar year of construction (i.e., 2024 through 2030).

Air dispersion modeling using the EPA's AERMOD program was conducted to assess the impact of emitted compounds on sensitive receptors. The model is a steady state Gaussian plume model and is an approved model by the Bay Area Air Quality Management District (BAAQMD) for estimating ground-level impacts from point and fugitive sources in simple and complex terrain. Meteorological data obtained from CARB for the nearest representative meteorological station (Fontana Monitoring Station) with the five latest available years (2011-2013, 2015-2016) of record were used to represent local weather conditions and prevailing winds. The health risks are calculated using the annual construction emission rates and the AERMOD output at the maximum exposed individual resident and maximum exposed preschool receptor at Kiddie Academy.

As seen in Appendix C, for the most conservative estimate, it was assumed that maximum-exposed off-site residential receptors (both children and adults) stood outdoors and are subject to DPM at their residence for 8 hours per day, and approximately 260 construction days per year. In reality, California residents typically will spend on average 2 hours per day outdoors at their residences and children and students are exposed to outdoor pollutant concentration levels for a portion of the day and are exposed to reduced indoor pollutant concentrations for the remaining hours (US EPA 2011). This would result in lower estimated risk values. In addition, for residential receptors, the calculated risk for infants from third trimester to age 2 is multiplied by a factor of 10 to account for early life exposure and uncertainty in child versus adult exposure impacts. For preschool-based receptors, the calculated risk for infants from age 6 months to age 2 is multiplied by a factor of 10 and for children age 2 to 9 is multiplied by a factor of 3 to account for early life exposure and uncertainty in child versus adult exposure impacts (OEHHA 2015)

5.1.4.2 IMPACT ANALYSIS

The following impact analysis addresses the thresholds of significance; the applicable thresholds are identified in brackets after the impact statement.

Impact 5.1-1: The proposed project is consistent with the applicable air quality management plan. [Threshold AQ-1]

A consistency determination with the AQMP plays an important role in local agency project review by linking local planning and individual projects to the AQMP. It fulfills the CEQA goal of informing decision makers of the environmental effects of the proposed project under consideration early enough to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to the clean air goals in the AQMP.

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The regional emissions inventory for the SoCAB is compiled by South Coast AQMD and SCAG. Regional population, housing, and employment projections developed by SCAG are based, in part, on cities' general plan land use designations. These projections form the foundation for the emissions inventory of the AQMP. These demographic trends are incorporated into SCAG's regional transportation plan/sustainable communities strategy to determine priority transportation projects and vehicle miles traveled in the SCAG region. Because the AQMP strategy is based on projections from local general plans, projects that are consistent with the local general plan are considered consistent with the air-quality-related regional plan.

The proposed project would result in a new community college campus to replace the existing campus and would increase student capacity by 854 students at buildout. However, a community college generally serves local students who live relatively close to the campus, and students typically do not move their place of residence to attend a community college. As discussed in Section 5.7, *Transportation*, the proposed project is a local serving essential service and is presumed to have a less than significant impact on vehicle miles traveled. The proposed project is also consistent with the City's existing land use designation, and therefore is consistent with the assumptions in SCAG's regional transportation plan/sustainable communities strategy. Therefore, the proposed project would not substantially affect housing, employment, or population projections within the region.

Finally, the long-term emissions generated by the proposed project would not produce criteria air pollutants that exceed the South Coast AQMD significance thresholds for proposed project operations (see Impact 5.1-3). South Coast AQMD's significance thresholds identify whether a project has the potential to cumulatively contribute to the SoCAB's nonattainment designations. Because the proposed project would not exceed the South Coast AQMD's regional significance thresholds (see Impact 5.1-2 and Impact 5.1-3) and growth is consistent with regional growth projections, the proposed project would not interfere with South Coast AQMD's ability to achieve the long-term air quality goals identified in the AQMP. Furthermore, based on the general premise of the AQMP and its focus on air quality effects from a long-term perspective, construction emissions associated with a project are not considered in the AQMP consistency analysis. Therefore, the proposed project would be consistent with the AQMP, and impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant impact.

Impact 5.1-2: Construction activities associated with the proposed project would not generate short-term emissions in exceedance of South Coast AQMD's threshold criteria. [Thresholds AQ-2 and AQ-3]

Construction activities produce combustion emissions from various sources, such as on-site heavy-duty construction vehicles, vehicles hauling materials to and from the site, and motor vehicles transporting the construction crew. Construction of the proposed project would generate criteria air pollutants associated with construction equipment exhaust and fugitive dust from site preparation, rough and fine grading, utilities trenching, building construction, architectural coating, and pavement of asphalt and nonasphalt surfaces on the site. Air pollutant emissions from construction activities on-site would vary daily as construction activity levels change. An estimate of maximum daily construction emissions for the proposed project is provided in Table 5.1-10, *Maximum Daily Regional Construction Emissions (Phase 1)*, for Phase 1 activities and Table 5.1-11, *Maximum Daily Regional Construction Emissions (Phase 2)* for Phase 2 activities.

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Table 5.1-10 Maximum Daily Regional Construction Emissions (Phase 1)

Construction Phase	Pollutants (lbs/day) ^{1,2}					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Year 2024						
Site Preparation	3	28	19	<1	10	6
Site Preparation and Soil Haul	3	48	25	<1	13	6
Site Preparation and Soil Haul and Rough Grading 2024	6	81	53	<1	19	9
Rough Grading 2024	3	33	29	<1	6	3
Rough Grading and Utilities Trenching 2024	5	34	32	<1	6	3
Year 2025						
Rough Grading and Utilities Trenching 2025	3	30	30	<1	5	3
Rough Grading, Utilities Trenching, and Fine Grading 2025	6	59	58	<1	11	5
Fine Grading 2025	3	29	27	<1	5	3
Fine Grading and Paving 2025	5	37	42	<1	6	3
Paving 2025	2	9	15	<1	1	<1
Paving 2025 and Building Construction 2025	4	26	41	<1	5	2
Building Construction 2025	2	17	26	<1	4	2
Year 2026						
Building Construction 2026	2	17	25	<1	4	2
Building Construction 2026, Paving 2026, and Architectural Coating	35	27	43	<1	6	2
Maximum Daily Construction Emissions Phase 1						
Maximum Daily Emissions	35	81	58	<1	19	9
South Coast AQMD Regional Construction Threshold	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

Source: CalEEMod Version 2020.4.

¹ Based on the preliminary information provided by the District. Where specific information regarding proposed project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast AQMD of construction equipment.

² Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.

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Table 5.1-11 Maximum Daily Regional Construction Emissions (Phase 2)

Construction Phase	Pollutants (lb/day) ^{1,2}					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Year 2027						
Site Preparation	<1	5	4	<1	<1	<1
Site Preparation and Rough Grading	1	14	10	<1	3	2
Grading	1	9	6	<1	3	1
Grading and Building Construction 2027	2	15	14	<1	3	2
Building Construction 2027	1	6	8	<1	1	<1
Year 2028						
Building Construction 2028	1	6	8	<1	1	<1
Building Construction 2028 and Architectural Coating (IB II)	6	7	10	<1	1	<1
Year 2029						
Building Construction 2029	1	6	8	<1	1	<1
Building Construction 2029 and Architectural Coating (CTE/Training)	12	7	10	<1	1	<1
Year 2030						
Building Construction 2029	1	4	8	<1	<1	<1
Building Construction 2029, Paving, and Architectural Coating (SCCC)	9	9	18	<1	1	<1
Maximum Daily Construction Emissions Phase 2						
Maximum Daily Emissions	18	15	17	<1	3	2
South Coast AQMD Regional Construction Threshold	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

Source: CalEEMod Version 2020.4.

¹ Based on the preliminary information provided by the District. Where specific information regarding proposed project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by South Coast AQMD of construction equipment.

² Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.

The SoCAB is designated nonattainment for O₃ and PM_{2.5} under the California and National AAQS, nonattainment for PM₁₀ under the California AAQS,¹² and nonattainment for lead (Los Angeles County only) under the National AAQS. According to South Coast AQMD methodology, any project that does not exceed or can be mitigated to less than the daily threshold values would not add significantly to a cumulative impact (South Coast AQMD 1993). As shown in these tables, the maximum daily emissions for VOC, NO_x, CO, SO₂, PM₁₀, and PM_{2.5} from construction-related activities for Phase 1 and Phase 2 would be less than their respective South Coast AQMD regional significance threshold values. Therefore, short-term air quality impacts from proposed project-related construction activities would be less than significant.

Level of Significance Before Mitigation: Less than significant impact.

¹² Portions of the SoCAB along SR-60 in Los Angeles, Riverside, and San Bernardino Counties are proposed as nonattainment for NO₂ under the California AAQS.

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Impact 5.1-3: Long-term operation of the project would not generate additional vehicle trips and associated emissions in exceedance of South Coast AQMD's threshold criteria. [Thresholds AQ-2 and AQ-3]

Following full buildout of the proposed project, operation would generate a net increase in criteria air pollutant emissions from area sources (e.g., landscaping equipment, architectural coating) and energy (i.e., natural gas used for heating). As shown in Table 5.1-12, *Fontana Campus Maximum Daily Regional Operation Emissions*, the maximum daily operation emissions would be less than their respective South Coast AQMD regional significance threshold values. Projects that do not exceed the South Coast AQMD regional significance thresholds would not result in an incremental increase in health impacts in the SoCAB from project-related increases in criteria air pollutants. Therefore, impacts to the regional air quality associated with operation of the proposed project would be less than significant.

Table 5.1-12 Fontana Campus Maximum Daily Regional Operation Emissions

Source	Maximum Daily Emissions (lbs/Day)					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Area	5	<1	1	<1	<1	<1
Energy	<1	1	1	<1	<1	<1
Mobile	14	17	127	<1	35	10
Offroad	1	9	12	<1	<1	<1
Total	20	26	140	<1	36	10
Existing Emissions	12	14	104	<1	29	8
Net Change in Emissions	7	13	37	<1	7	2
South Coast AQMD Regional Threshold	55	55	550	150	150	550
Exceeds Threshold?	No	No	No	No	No	No

Source: CalEEMod Version 2020.4. Highest winter or summer emissions are reported. (see Appendix B)

Notes: lbs = Pounds.

Overlap of Construction and Operational Phase

The South Coast AQMD does not have a significance threshold for construction/operation overlap; therefore, this analysis is included for informational purposes only. Table 5.1-13, *Potential Overlap of Construction and Operational Activities*, shows the maximum daily emissions during an approximately 36-month period where proposed project-related Phase 1 operation and Phase 2 construction activities overlap. Based on the development timeline for the proposed project, it is anticipated that operation of the new Phase 1 buildings would occur while Phase 2 would undergo construction. For purposes of this discussion, the maximum daily combined emissions shown in the table represent a conservative scenario because the maximum daily operational emissions are based on full buildout of the proposed project. In reality, if project-related construction and operation activities were to overlap, only a proportion of the proposed project would be operational while the rest is constructed.

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Table 5.1-13 Potential Overlap of Construction and Operational Activities

Source	Maximum Daily Emissions (lbs/day) ¹					
	VOC	NO _x	CO	SO ₂	PM ₁₀	PM _{2.5}
Construction Phase 2	17	15	17	<1	3	2
Operational Emissions	20	26	140	<1	36	10
Maximum Daily Combined Emissions	37	41	157	<1	38	2

Source: CalEEMod Version 2020.4. Highest winter or summer emissions are reported.

Notes: lbs: Pounds.

¹ The maximum daily operational emissions are based on full buildout. Therefore, the maximum daily combined emissions represent a conservative scenario because in practice, only a proportion of the allowable land use space would be operating while the rest of the proposed project is constructed and fully built out.

Level of Significance Before Mitigation: Less than significant impact.

Impact 5.1-4: The proposed project could expose sensitive receptors to substantial pollutant concentrations during construction activities. [Threshold AQ-3]

This impact analysis describes changes in localized impacts from short-term construction activities. The proposed project could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevated levels. Unlike the mass of emissions shown in the regional emissions analysis shown in Tables 5.1-10 and 5.1-11, which are described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or µg/m³) and can be correlated to potential health effects.

Construction-Phase LSTs

Screening-level LSTs (pounds per day) are the amount of project-related mass emissions at which localized concentrations (ppm or µg/m³) could exceed the AAQS for criteria air pollutants for which the SoCAB is designated nonattainment. The screening-level LSTs are based on the project site size and distance to the nearest sensitive receptor and are based on the California AAQS, which are the most stringent AAQS, established to protect sensitive receptors most susceptible to respiratory distress.

Table 5.1-14, *Construction Emissions Compared to the Screening-Level LSTs (Phase 1)*, shows the Phase 1 maximum daily construction emissions (pounds per day) generated during on-site construction activities compared with the South Coast AQMD’s screening-level LSTs, for receptors who would be on-site less than 24 hours per day within 82 feet (25 meters) for NO_x and CO; and receptors who could potentially be on-site for up to 24 hours per day at 160 feet (49 meters) for PM₁₀ and PM_{2.5}.

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Table 5.1-14 Construction Emissions Compared to the Screening-Level LSTs (Phase 1)

	Pollutants (lbs/day) ¹			
	NO _x	CO	PM ₁₀ ²	PM _{2.5} ²
South Coast AQMD ≤1.00-Acre LST	118	667	12.56	4.90
Paving 2025	9	15	0.42	0.39
Exceeds LST?	No	No	No	No
South Coast AQMD 1.31-Acre LSTs	134	762	15.28	5.21
Paving 2025 and Building Construction 2025	21	31	0.95	0.88
Building Construction 2025	12	16	0.53	0.50
Building Construction 2026	12	16	0.53	0.50
Building Construction 2026, Paving 2026, and Architectural Coating	22	32	1.00	0.93
Exceeds LST?	No	No	No	No
South Coast AQMD 3.50-Acre LSTs	220	1,359	31.89	7.90
Site Preparation	27	18	9.63	5.45
Site Preparation and Soil Haul	27	18	9.70	5.46
Exceeds LST?	No	No	No	No
South Coast AQMD 4.00-Acre LSTs	237	1,488	35.43	8.57
Rough Grading 2024	32	28	5.27	2.79
Rough Grading and Utilities Trenching 2024	34	31	5.34	2.85
Rough Grading and Utilities Trenching 2025	29	30	5.13	2.66
Fine Grading 2025	28	26	5.10	2.61
Fine Grading and Paving 2025	37	41	5.51	2.99
Exceeds LST?	No	No	No	No
South Coast AQMD ≥5.00-Acre LSTs	270	1,746	42.52	9.90
Site Preparation and Rough Grading	60	46	14.97	8.25
Rough Grading, Utilities Trenching, and Fine Grading 2025	57	56	10.22	5.26
Exceeds LST?	No	No	No	No

Sources: CalEEMod Version 2020.4., and South Coast AQMD 2008b and 2011.

Notes: In accordance with South Coast AQMD methodology, only onsite stationary sources and mobile equipment occurring on the project area are included in the analysis. The screening-level LSTs are based on sensitive receptors with exposure durations less than 24-hours within 82 feet (25 meters) for NO_x and CO; and receptors within 160 feet (49 meters) of the project site for PM₁₀ and PM_{2.5} in Source Receptor Area (SRA) 34.

¹ Based on information provided or verified by the District. Where specific information regarding project-related construction activities or processes was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by the South Coast AQMD.

² Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.

Table 5.1-15, *Construction Emissions Compared to the Screening-Level LSTs (Phase 2)*, shows the Phase 2 maximum daily construction emissions (pounds per day) generated during on-site construction activities compared with the South Coast AQMD's screening-level LSTs, for sensitive receptors who would be on-site less than 24 hours per day within 82 feet (25 meters) for NO_x and CO; and receptors who could potentially be on-site for up to 24 hours per day at 160 feet (49 meters) for PM₁₀ and PM_{2.5}.

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Table 5.1-15 Construction Emissions Compared to the Screening-Level LSTs (Phase 2)

	Pollutants (lbs/day) ¹			
	NO _x	CO	PM ₁₀ ²	PM _{2.5} ²
South Coast AQMD ≤1.00-Acre LST	118	667	12.56	4.90
Site Preparation	5	4	0.39	0.18
Site Preparation and Rough Grading	14	9	3.01	1.60
Grading	9	5	2.62	1.42
Grading and Building Construction	14	12	2.86	1.64
Building Construction 2027	5	7	0.24	0.22
Building Construction 2028	5	7	0.24	0.22
Building Construction 2028 and Architectural Coating (CTE/Training)	7	9	0.29	0.27
Building Construction 2028 and Architectural Coating (IB II)	7	9	0.29	0.27
Building Construction 2029	5	7	0.24	0.22
Building Construction 2029 and Architectural Coating (CTE/Training)	7	9	0.29	0.27
Building Construction 2030	3	7	0.06	0.06
Building Construction 2030, Paving, and Architectural Coating (SCCC)	8	16	0.24	0.24
Exceeds LST?	No	No	No	No

Sources: CalEEMod Version 2020.4 South Coast AQMD 2008b, 2011.

Notes: In accordance with South Coast AQMD methodology, only onsite stationary sources and mobile equipment occurring on the project area are included in the analysis. The screening-level LSTs are based on sensitive receptors with exposure durations less than 24-hours within 82 feet (25 meters) for NO_x and CO; and receptors within 160 feet (49 meters) of the project site for PM₁₀ and PM_{2.5} in Source Receptor Area (SRA) 34.

¹ Based on information provided or verified by the District. Where specific information regarding project-related construction activities or processes was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by the South Coast AQMD.

² Includes implementation of fugitive dust control measures required by South Coast AQMD under Rule 403, including watering disturbed areas a minimum of two times per day, reducing speed limit to 15 miles per hour on unpaved surfaces, replacing ground cover quickly, and street sweeping with Rule 1186-compliant sweepers.

As shown in Tables 5.1-14 and 5.1-15, both Phase 1 and Phase 2 construction of the proposed project would not generate construction-related on-site emissions that would exceed the screening-level LSTs. Thus, project-related construction activities would not expose sensitive receptors to substantial pollutant concentrations. Therefore, localized air quality impacts from construction activities would be less than significant.

Construction Health Risk

The proposed project would elevate concentrations of TACs (i.e., DPM) in the vicinity of sensitive land uses during construction activities. Construction modeling considered years 2024-2026 for Phase 1 construction activities and years 2027-2030 to represent the Phase 2 activities.

The nearest sensitive receptors to the project site are the preschool students at Kiddie Academy 500 feet to the east of the project site along Underwood Drive and the single-family residence 175 feet to the east on White Oak Lane. Consequently, a site-specific construction HRA of TACs was prepared (see Appendix C). The results of the analysis are shown in Table 5.1-16, *Construction Risk Summary*.

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Table 5.1-16 Construction Risk Summary

Receptor	Cancer Risk (per million)	Chronic Hazards
Maximum Exposed Individual Receptor – Off-site Resident	15.8	0.055
Maximum Exposed Receptor – Preschool Students	3.3	0.011
South Coast AQMD Threshold	10	1.0
Exceeds Threshold?	Yes	No

Source: Appendix C.

Note: Cancer risk calculated using 2015 Office of Environmental Health Hazard Assessment HRA guidance.

The results of the HRA are based on the maximum receptor concentration over an approximately seven-year construction exposure duration for off-site receptors. The methodology and assumptions used in the HRA is discussed in Section 5.1.4.1, *Methodology*, under Construction Health Risk Assessment subheading.

- Cancer risk for the maximum exposed off-site resident from construction activities related to the proposed project were calculated to be 15.8 in a million and would exceed the 10 in a million-significance threshold.
- Cancer risk for the maximum exposed on-site preschool student receptor from construction activities would be 3.3 in a million and would not exceed the 10 in a million-significance threshold.
- For noncarcinogenic effects, the chronic hazard index identified for each toxicological endpoint totaled less than one for all the off-site sensitive receptors. Therefore, chronic non-carcinogenic hazards are less than significant.

Because cancer risks for the off-site maximum exposed individual resident would exceed South Coast AQMD significance threshold, construction activities associated with the proposed project are potentially significant.

Level of Significance Before Mitigation: Potentially significant impact.

Impact 5.1-5: The proposed project would not expose sensitive receptors to substantial pollutant concentrations during operation. [Threshold AQ-3]

This impact analysis describes changes in localized impacts from long-term operational activities. The proposed project could expose sensitive receptors to elevated pollutant concentrations during operation of the proposed project if it would cause or contribute significantly to elevated levels. Overall, implementation of the proposed project would not result in substantial changes to the current operation of the existing Fontana Campus use.

Operational Phase LSTs

Implementation of the proposed project is assumed to use 15 welders for the welding course, which would contribute to criteria pollutant emissions from on-site, stationary sources. Land uses that have the potential to generate substantial stationary sources of emissions require a permit from South Coast AQMD, such as chemical processing or warehousing operations where substantial truck idling could occur on-site. Additionally,

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operation of the proposed project would also result in the use of standard on-site mechanical equipment such as heating, ventilation, and air conditioning units in addition to occasional use of landscaping equipment for property maintenance which would generate area source emissions. Emissions of NO₂, CO, PM₁₀, and PM_{2.5} generated at the project site (off-site mobile-source emissions are not included in the LST analysis) from on-site area sources and off-road equipment could expose sensitive receptors to substantial concentrations of criteria air pollutants. Table 5.1-17, *Localized On-Site Operational Emissions*, shows localized maximum daily operational emissions. As shown in this table, maximum daily on-site operational emissions would not exceed the screening-level LSTs. Thus, operational criteria air pollutant emissions would not exceed the California AAQS and project operation would not expose sensitive receptors to substantial pollutant concentrations. Therefore, impacts would be less than significant.

Table 5.1-17 Localized On-Site Operational Emissions

	Pollutants (lbs/day) ¹			
	NO _x	CO	PM ₁₀ ²	PM _{2.5} ²
Area Sources	<1	1	<1	<1
Energy	1	1	<1	<1
Welding	9	12	<1	<1
Maximum Daily Onsite Operation Emissions	10	13	<1	<1
South Coast AQMD LST	270	1,746	4.00	2.00
Exceeds LST?	No	No	No	No

Sources: CalEEMod Version 2020.4; South Coast AQMD 2008b, 2011.

Notes: In accordance with South Coast AQMD methodology, only on-site stationary sources and mobile equipment occurring on the project area are included in the analysis. Operational LSTs are based on sensitive receptors within 82 feet (25 meters) in Source Receptor Area (SRA) 34.

¹ Based on information provided or verified by the District. Modeling assumes 15 welders will be used for a total of 234 hours per year.

Carbon Monoxide Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. These pockets have the potential to exceed the state one-hour standard of 20 ppm or the eight-hour standard of 9.0 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hot spots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds. The SoCAB has been designated in attainment of both the National and California AAQS for CO. Under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—to generate a significant CO impact (BAAQMD 2017). As described in the proposed project’s traffic study (Appendix L), the proposed project would generate a net increase of 94 PM peak-hour trips, which is substantially below the incremental increase in peak-hour vehicle trips needed to generate a significant CO impact. Implementation of the proposed project would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the project site. Impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant impact.

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Impact 5.1-6: The proposed project would not result in other emissions that would adversely affect a substantial number of people. [Threshold AQ-4]

The threshold for odor is if a project creates an odor nuisance pursuant to South Coast AQMD Rule 402, Nuisance, which states:

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

The type of facilities that are considered to have objectionable odors include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities.

During construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Construction-related odor emissions would be temporary and intermittent. Operation of the proposed project would involve autobody welding on the project site. However, these emissions are associated with classroom training and would not include a paint booth. Overall, construction activities and operation of the proposed project would not generate emissions that would affect a significant number of people. Impacts would be less than significant.

Level of Significance Before Mitigation: Less than significant impact.

5.1.5 Cumulative Impacts

In accordance with South Coast AQMD's methodology, any project that produces a significant project-level regional air quality impact in an area that is in nonattainment contributes to the cumulative impact. Consistent with the methodology, projects that do not exceed the regional significance thresholds or localized significance thresholds would not result in significant cumulative impacts. In addition, projects that do not exceed the cancer risk or chronic hazard thresholds based on the latest guidance from the Office of Environmental Health Hazard Assessment (2015) would not result in significant cumulative impacts. Cumulative projects in the local area include new development and general growth in the project area. The greatest source of emissions in the SoCAB is mobile sources. Due to the extent of the area potentially impacted by cumulative emissions (i.e., the SoCAB), South Coast AQMD considers a project cumulatively significant when project-related emissions exceed the South Coast AQMD regional emissions thresholds shown in Table 5.1-6 or risk threshold in Table 5.1-9 (South Coast AQMD 1993).

5.1.5.1 CONSTRUCTION

The SoCAB is designated nonattainment for O₃ and PM_{2.5} under the California and National AAQS and nonattainment for PM₁₀ and lead (Los Angeles County only) under the National AAQS. Construction of

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cumulative projects would further degrade the regional and local air quality. As shown in Impact 5.1-2, project-related construction activities would not generate short-term emissions that would exceed the South Coast AQMD regional emissions thresholds. In addition, construction of the proposed project would not exceed localized significance thresholds. However, construction of the proposed project would exceed the cancer risk threshold during Phase 1 and Phase 2 construction activities for the off-site resident receptor 175 feet to the east of the project site. Therefore, the proposed project's contribution to cumulative air quality impacts would be cumulatively considerable prior to implementation of mitigation.

5.1.5.2 OPERATION

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values would not be considered by South Coast AQMD to be a substantial source of air pollution and does not add significantly to a cumulative impact. Operation of the proposed project would not result in emissions in excess of the South Coast AQMD regional emissions thresholds. Therefore, the proposed project's contribution to cumulative air quality impacts would not be cumulatively considerable.

5.1.6 Level of Significance Before Mitigation

Upon implementation of PPP AIR-1 through PPP AIR-6, these impacts would be less than significant: 5.1-1, 5.1-2, 5.1-3, 5.1-5, and 5.1-6.

Without mitigation, the following impact would be **potentially significant**:

- **Impact 5.1-4** Construction activities associated with the proposed project could elevate concentrations of TACs to a level that exceeds the South Coast AQMD cancer risk threshold of 10 in a million.

5.1.7 Mitigation Measures

Impact 5.1-4

AQ-1 Construction bids for Phase 1 and Phase 2 activities at the project site shall specify use of off-road equipment that meets the United States Environmental Protection Agency (EPA) Tier 4 interim emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower, unless it can be demonstrated that such equipment is not available. In the event the equipment is not available, any emissions-control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Tier 4 interim emissions standard for a similarly sized engine, as defined by California Air Resources Board (CARB) regulations. Construction contractors shall use Tier 4 interim equipment for engines of more than 50 horsepower during construction activities. The following shall be specified in the construction bid:

- Construction contractors shall use engines that meet EPA Tier 4 Interim emission standards.

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- Construction contractors shall maintain a list of all operating equipment in use on the project site in use for more than 20 hours for verification by the District. The construction equipment list shall state the makes, models, and number of construction equipment on-site.
- Construction contractors shall ensure that all equipment shall be properly serviced and maintained in accordance with the manufacturer’s recommendations.
- Construction contractors shall communicate with all subcontractors in contracts and construction documents that all nonessential idling of construction equipment is restricted to five minutes or less in compliance with CARB Rule 2449. Construction contractors shall be responsible for ensuring that this requirement is met.

5.1.8 Level of Significance After Mitigation

Impact 5.1-4

As seen in Table 5.1-18, *Construction Risk Summary with Mitigation*, Mitigation Measure AQ-1 would reduce potential impacts associated with air quality below the South Coast AQMD cancer risk threshold of 10 in a million. Therefore, the proposed project would not expose sensitive receptors to substantial concentrations of air pollutant emissions during construction, and impacts would be reduced to a level that is less than significant with mitigation. Therefore, no significant unavoidable adverse impacts relating to air quality have been identified.

Table 5.1-18 Construction Risk Summary with Mitigation

Receptor	Cancer Risk (per million) ¹	Chronic Hazards
Maximum Exposed Receptor – Off-Site Resident	1.8	0.005
Maximum Exposed Receptor – On-Site Student	0.3	0.001
South Coast AQMD Threshold	10	1.0
Exceeds Threshold?	No	No

Sources: Lakes AERMOD Version 9.8.3; CalEEMod Version 2020.4.0 (Appendix C).

Note: Cancer risk calculated using 2015 Office of Environmental Health Hazard Assessment HRA guidance.

¹ Risks incorporate Mitigation Measure AQ-1, which includes using construction equipment which meets US EPA Tier 4 Interim engine requirements for equipment over 50 horsepower

5.1.9 References

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