5.2 AIR QUALITY

This section of the Draft Environmental Impact Report (DEIR) evaluates the potential for 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 (SCAQMD). The analysis focuses on air pollution from regional emissions and localized pollutant concentrations. Criteria air pollutant emissions modeling for the proposed project is included in Appendix C1 of this DEIR. The Health Risk Assessment (HRA) for the proposed project is included in Appendix C2. Transportation-sector impacts are based on trip generation and average vehicle trip distance for passenger vehicle and trucks as provided by Urban Crossroads (see Appendices L1 and L2. Cumulative impacts related to air quality are based on the regional boundaries of the South Coast Air Basin (SoCAB).

5.2.1 Environmental Setting

5.2.1.1 REGULATORY BACKGROUND

Ambient air quality standards (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 toxic air contaminants (TACs). The proposed project is in the SoCAB and is subject to the rules and regulations imposed by the SCAQMD as well as the California AAQS adopted by California Air Resources Board (CARB) and National AAQS adopted by the United States Environmental Protection Agency (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

Ambient Air Quality Standards

The Clean Air Act was passed in 1963 by the US Congress and has been amended several times. The 1970 Clean Air Act 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 Clean Air Act 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.

5. Environmental Analysis
AIR QUALITY

Both California and the federal government have established health-based AAQS for seven air pollutants, which are shown in Table 5.2-1. These pollutants are ozone (O_3), nitrogen dioxide (NO_2), carbon monoxide (CO), sulfur dioxide (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (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 5.2-1 Ambient Air Quality Standards for Criteria 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	
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.

Table 5.2-1 Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	California Standard[1]	Federal Primary Standard[2]	Major Pollutant Sources
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_2S) 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.
Vinyl Chloride	24 hour	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; µg/m³: micrograms per cubic meter
* Standard has not been established for this pollutant/duration by this entity.
[1] California standards for O_3, CO (except 8-hour Lake Tahoe), SO_2 (1 and 24 hour), NO_2, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
[2] National standards (other than O_3, PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The O_3 standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m³ 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 µg/m³ to 12.0 µg/m³. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m³, as was the annual secondary standard of 15 µg/m³. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m³ 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 SO_2 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, including:

- **AB 1493: Pavley Fuel Efficiency Standards.** Pavley I is a clean-car standard that reduces GHG 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.

- **Heavy-Duty (Tractor-Trailer) GHG Regulation.** The tractors and trailers subject to this regulation must either use EPA SmartWay certified tractors and trailers or retrofit their existing fleet with SmartWay verified technologies. The regulation applies primarily to owners of 53-foot or longer box-type trailers, including both dry-van and refrigerated-van trailers, and owners of the heavy-duty tractors that pull them on California highways. These 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. There are also requirements for trailers to have low rolling resistance tires and aerodynamic devices

- **SB 1078 and SB 107: Renewables Portfolio Standards.** A major component of California's Renewable Energy Program is the renewables portfolio standard (RPS) established under Senate Bills 1078 (Sher) and 107 (Simitian). Under the RPS, certain retail sellers of electricity were required to increase the amount of renewable energy each year by at least 1 percent in order to reach at least 20 percent by December 30, 2010.

- **California Code of Regulations (CCR), Title 20: Appliance Energy Efficiency Standards.** The 2006 Appliance Efficiency Regulations (20 CCR §§ 1601–1608) were adopted by the CEC 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.

- **24 CCR, Part 6: Building and Energy Efficiency Standards.** Energy conservation standards for new residential and non-residential buildings adopted by the California Energy Resources Conservation and Development Commission (now the CEC) 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.[1]

Tanner Air Toxics Act and Air Toxics Hots 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 § 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 § 7412[b]) is a toxic air contaminant. 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.

[1] The green building standards became mandatory in the 2010 edition of the code.

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 § 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.
- **13 CCR Chapter 10 § 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 § 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.

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 (SO_2), coarse inhalable particulate matter (PM_{10}), fine inhalable particulate matter ($PM_{2.5}$), and lead (Pb) are primary air pollutants. Of these, CO, SO_2, NO_2, PM_{10}, and $PM_{2.5}$ are "criteria air pollutants," which means that 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 (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants.

A description of each of the primary and secondary criteria air pollutants and its known health effects is presented below.

- **Carbon Monoxide** is a colorless, odorless 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. 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 (SCAQMD 2005; USEPA 2018). The SoCAB is designated under the California and National AAQS as being in attainment of CO criteria levels (CARB 2017a).

- **Nitrogen Oxides** are a by-product of fuel combustion and contribute to the formation of ground-level O_3, PM_{10}, and $PM_{2.5}$. The two major forms of NO_X are nitric oxide (NO) and nitrogen dioxide (NO_2). NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure. The principal form of NO_X produced by combustion is NO, but NO reacts quickly with oxygen to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 is an acute irritant and more injurious than NO in equal concentrations. At atmospheric concentrations, however, NO_2 is only potentially irritating. NO_2 absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO_2 exposure concentrations near roadways are of particular concern for susceptible individuals, including asthmatics, children, and the elderly. Current scientific evidence links short-term NO_2 exposures, ranging from 30 minutes to 24 hours, with adverse respiratory effects, including airway inflammation in healthy people and increased respiratory symptoms in people with asthma. Also, studies show a connection between elevated short-term NO_2 concentrations and increased visits to emergency departments and hospital admissions for respiratory issues, especially asthma (SCAQMD 2005; USEPA 2018). The SoCAB is designated an attainment area for NO_2 under the National and California AAQS (CARB 2017a).

- **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 SO_2. When sulfur dioxide forms sulfates (SO_4) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO_X). Thus, SO_2 is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO_2 may irritate the upper respiratory tract. Current scientific evidence links short-term exposures to SO_2, 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, SO_2 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 (SCAQMD 2005; USEPA 2018). The SoCAB is designated attainment under the California and National AAQS (CARB 2017a).

- **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 PM_{10}, 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 atmosphere results primarily from industrial, agricultural, construction, and transportation activities. Both PM_{10} and $PM_{2.5}$ may adversely affect the human respiratory system, especially in people who are naturally sensitive or susceptible to breathing problems. The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} 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) (SCAQMD 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 (SCAQMD 2013). However, the EPA or CARB has yet to adopt 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,[2] environmental damage,[3] and aesthetic damage[4] (SCAQMD 2005; USEPA 2018). The SoCAB is a nonattainment area for $PM_{2.5}$ under California and National AAQS and a nonattainment area for PM_{10} under the California AAQS (CARB 2017a).[5]

- **Ozone**, or O_3, 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. O_3 is a secondary criteria air pollutant. O_3 concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions for its formation. O_3 poses a health threat to those who already suffer from respiratory diseases as well as to healthy people. Breathing O_3 can trigger a variety of health problems, including chest pain, coughing, throat irritation, and congestion. It can worsen bronchitis, emphysema, and asthma. Ground-level O_3 also can reduce lung function and inflame the linings of the lungs. Repeated exposure may permanently scar lung tissue. O_3 also affects sensitive vegetation and ecosystems, including forests, parks, wildlife refuges, and wilderness areas. In particular, O_3 harms sensitive vegetation during the growing season (SCAQMD 2005; USEPA 2018). The SoCAB is designated extreme nonattainment under the California AAQS (1-hour and 8-hour) and National AAQS (8-hour) (CARB 2017a).

[2] $PM_{2.5}$ is the main cause of reduced visibility (haze) in parts of the United States.

[3] 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.

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

[5] CARB approved the SCAQMD's request to redesignate the SoCAB from serious nonattainment for PM_{10} to attainment for PM_{10} under the National AAQS on March 25, 2010, because the SoCAB did not violate federal 24-hour PM_{10} standards from 2004 to 2007. The EPA approved the State of California's request to redesignate the South Coast PM_{10} nonattainment area to attainment of the PM_{10} National AAQS, effective on July 26, 2013.

- **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 (SCAQMD 2005). There are no AAQS for VOCs, meaning that no health-based criteria established by the EPA or CARB. However, because they contribute to the formation of O_3, SCAQMD has established a significance threshold. The health effects for ozone, which VOC contributes to the formation of, are described above.

- **Lead** 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 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 (SCAQMD 2005; USEPA 2018). 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.[6] As a result of these violations, the Los Angeles County portion of the SoCAB is designated as nonattainment under the National AAQS for lead (SCAQMD 2012; CARB 2017a). There are no lead-emitting sources associated with this project, and therefore, lead is not a pollutant of concern for the proposed project.

Table 5.2-2 summarizes the potential health effects associated with the criteria air pollutants.

[6] 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 (SCAQMD 2012).

Table 5.2-2 Criteria Air Pollutant Health Effects Summary

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	• 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)	• 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)	• Increased response to allergens • Aggravation of respiratory illness	Same as carbon monoxide sources
Particulate Matter (PM_{10} & $PM_{2.5}$)	• 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
Sulfur Dioxide (SO_2)	• 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)	• Behavioral and learning disabilities in children • Nervous system impairment	Contaminated soil

Source: CARB 2009; SCAQMD 2005.

Toxic Air Contaminants

People exposed to toxic air pollutants 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 (USEPA 2019). 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. Since no safe levels of TACs can be determined, 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 project being particulate matter from diesel-fueled engines.

Diesel Particulate Matter (DPM)

In 1998, CARB identified diesel particulate matter 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 (USEPA 2002).

Air Quality Management Planning

The SCAQMD is the agency responsible for improving air quality in the SoCAB and assuring that the National and California AAQS are attained and maintained. It 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, SCAQMD 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 2025[7]
- 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 year 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 standard by year 2022 (SCAQMD 2017), which requires reducing NO_X emissions in the SoCAB to 250 tpd. This is approximately 45 percent additional reductions above existing regulations for the 2023 ozone standard and 55 percent additional reductions above 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, SCAQMD 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.

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. The 2016 AQMP includes 15 measures to reduce mobile source emissions. These measures include identifying actions to mitigate and reduce emissions associated with new development and redevelopment projects, to reduce facility-based (i.e., commercial marine ports, rail yards and intermodal facilities, warehouse and distribution centers, and commercial airports in addition to new and redevelopment projects), on-road, and off-road mobile sources of emissions, and also to identify the benefits of incentive programs in reducing emissions. The SCAQMD has established working groups to plan and implement the facility-based mobile source measures. Currently, SCAQMD is reviewing the feasibility of implementation of an indirect source review program to reduce emissions from new development of commercial, residential, and industrial projects that do not fall within the other facility-based mobile source measures (SCAQMD 2019a). Additionally, SCAQMD

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

is also reviewing a program to facilitate local and regional emission reductions through actions and investments at warehouses (SCAQMD 2019b). Overall, strategies outlined in the 2016 AQMP would be implemented in collaboration between CARB and the EPA (SCAQMD 2017).

Lead Implementation Plan

In 2008, the EPA designated the Los Angeles County portion of the SoCAB as a nonattainment area under the federal lead classification due to 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.

SCAQMD Rules and Regulations

All projects are subject to SCAQMD 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 United States 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. 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. In general, the rule prohibits new developments from the installation of wood-burning devices.

- **Rule 445, Wood Burning Devices.** This rule is intended to reduce the emission of particulate matter from wood-burning 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 SCAQMD. Any person who supplies, sells, offers for sale, or manufactures any architectural coating for use on projects in the SCAQMD must comply with the current VOC standards set in this rule.

- **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.

Local

City of Ontario General Plan

The City of Ontario General Plan Environmental Resources Element contain policies which pertain to improving air quality and sustainability.

- **Policy ER 3-3, Building and Site Design.** We require new construction to incorporate energy efficient building and site design strategies, which could include appropriate solar orientation, maximum use of natural daylight, passive solar and natural ventilation.

- **Policy ER 4-4, Indoor Air Quality.** We will comply with State Green Building Codes relative to indoor air quality.

- **Policy ER 4-5, Transportation.** We promote mass transit and non-motorized mobility options (e.g. walking, biking) to reduce air pollutant emissions.

- **Policy ER 4-6, Particulate Matter.** We support efforts to reduce particulate matter to meet State and Federal Clean Air Standards.

- **Policy ER 4-8, Tree Planting.** We protect healthy trees within the City and plant new trees to increase carbon sequestration and help the regional/local air quality.

5.2.1.2 EXISTING CONDITIONS

South Coast Air Basin

The project area 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 general region lies in the semi-permanent 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 (SCAQMD 2005).

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 area is the Pomona Fairplex Monitoring Station (ID No. 047050). The average low is reported at 38.1°F in January, and the average high is 91.1°F in August (WRCC 2019).

In contrast to a very steady pattern of temperature, rainfall is seasonally and annually highly variable. Almost all rain falls from October through April. Summer rainfall is normally restricted to widely scattered thundershowers near the coast, with slightly heavier shower activity in the east and over the mountains. Rainfall averages 16.97 inches per year in the project area (WRCC 2019).

Humidity

Although the SoCAB has a semiarid climate, the air near the earth's surface is typically moist because of the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the SoCAB by offshore winds, the "ocean effect" is dominant. The effect is most noticeable along the coast and decreases further inland (SCAQMD 1994). Periods of heavy fog, especially along the coast, are frequent. 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 (SCAQMD 2005).

Wind

Wind patterns across the south coastal region are characterized by westerly or southwesterly onshore winds during the day and by 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, both 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 affect the transport and diffusion of pollutants by inhibiting their eastward transport. 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 (SCAQMD 2005).

Inversions

In conjunction with the two characteristic wind patterns that affect the rate and orientation of horizontal pollutant transport, there are two similarly distinct types of temperature inversions that control the vertical depth through which pollutants are mixed. These are the marine/subsidence inversion and the radiation inversion. 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 (SCAQMD 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 ambient air quality standards. 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 5.2-3.

Table 5.2-3 Attainment Status of Criteria 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
CO	Attainment	Attainment
NO_2	Attainment	Attainment/Maintenance
SO_2	Attainment	Attainment
Lead	Attainment	Nonattainment (Los Angeles County only)[1]
All others	Attainment/Unclassified	Attainment/Unclassified

Source: CARB 2017a.
[1] 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.

Multiple Air Toxics Exposure Study IV

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 2008, SCAQMD conducted its third update, MATES III, based on the Office of Environmental Health Hazards Assessment's (OEHHA) 2003 Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments (2003 HRA Guidance Manual). The results showed that the overall risk for excess cancer from a lifetime exposure to ambient levels of air toxics was about 1,200 in a million. The largest contributor to this risk was diesel exhaust, which accounted for 84 percent of the cancer risk (SCAQMD 2008a).

SCAQMD recently released the fourth update, MATES IV, which was also based on OEHHA's 2003 HRA Guidance Manual. The results showed that the overall monitored risk for excess cancer from a lifetime exposure to ambient levels of air toxics decreased to approximately 418 in one million. Compared to the 2008 MATES III, monitored excess cancer risks decreased by approximately 65 percent. Approximately 90 percent of the risk is attributed to mobile sources, and 10 percent is attributed to TACs from stationary sources, such as refineries, metal processing facilities, gas stations, and chrome plating facilities. The largest contributor to this risk was diesel exhaust, which accounted for approximately 68 percent of the air toxics risk. Compared to MATES III, MATES IV found substantial improvement in air quality and associated decrease in air toxics exposure. As a result, the estimated basinwide population-weighted risk decreased by approximately 57 percent since MATES III (SCAQMD 2015a).

The guidelines for estimating cancer risks were updated by OEHHA updated on March 6, 2015 (OEHHA 2015). The new method uses higher estimates of cancer potency during early life exposures, which result in a higher calculation of risk. There are also differences in the assumptions on breathing rates and length of residential exposures. When combined, SCAQMD estimates that risks for a given inhalation exposure level will be about 2.7 times higher than the risk identified in MATES IV using the 2015 OEHHA guidance methodology (e.g., 2.7 times higher than 418 in one million overall excess cancer risk) (SCAQMD 2015a).

Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the proposed project site are best documented by measurements taken by the SCAQMD. The proposed project is located within Source Receptor Area (SRA) 33: Southwest San Bernardino County.[8] An air quality monitoring station nearby the proposed planning area is the Upland Monitoring Station, which is one of 31 monitoring stations SCAQMD operates and maintains within the SoCAB.[9] This station provides PM_{10}, NO_2 and one- and eight-hour O_3 data. The data from these stations is summarized in Table 5.2-4. As shown in the table, the area regularly exceeds the state and federal one-hour and eight-hour O_3 standards within the last five recorded years. Additionally, the area exceeded the federal PM_{10} standard in 2016.

[8] Per SCAQMD Rule 701, an SRA is defined as follows: "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 within the SCAQMD'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.

Table 5.2-4 Ambient Air Quality Monitoring Summary

Pollutant/Standard	Number of Days Thresholds Were Exceeded and Maximum Levels				
	2014	2015	2016	2017	2018
Ozone (O_3)					
State 1-Hour ≥ 0.09 ppm (days exceed threshold)	34	49	53	66	25
State 8-hour ≥ 0.07 ppm (days exceed threshold)	60	69	89	89	54
Federal 8-Hour > 0.075 ppm (days exceed threshold)[1]	42	53	65	72	52
Max. 1-Hour Conc. (ppm)	0.126	0.136	0.156	0.150	0.133
Max. 8-Hour Conc. (ppm)	0.101	0.106	0.116	0.127	0.111
Carbon Monoxide (CO)					
State 8-Hour > 9.0 ppm (days exceed threshold)	*	*	*	*	*
Federal 8-Hour ≥ 9.0 ppm (days exceed threshold)	*	*	*	*	*
Max. 8-Hour Conc. (ppm)	*	*	*	*	*
Nitrogen Dioxide (NO_2)					
State 1-Hour ≥ 0.18 ppm (days exceed threshold)	0	0	0	0	0
Max. 1-Hour Conc. (ppm)	0.0741	0.0716	0.0701	0.0641	0.0587
Sulfur Dioxide (SO_2)					
State 24-Hour ≥ 0.04 ppm (days exceed threshold)	*	*	*	*	*
Federal 24-Hour ≥ 0.14 ppm (days exceed threshold)	*	*	*	*	*
Max 24-Hour Conc. (ppm)	*	*	*	*	*
Coarse Particulates (PM_{10})					
State 24-Hour > 50 µg/m³ (days exceed threshold)	*	*	*	*	*
Federal 24-Hour > 150 µg/m³ (days exceed threshold)	0	0	1	0	1
Max. 24-Hour Conc. (µg/m³)	80.8	77.7	184.0	106.5	156.6
Fine Particulates ($PM_{2.5}$)					
Federal 24-Hour > 35 µg/m³ (days exceed threshold)	*	*	*	*	*
Max. 24-Hour Conc. (µg/m³)	*	*	*	*	*

Source: CARB 2019.
Notes: ppm: parts per million; parts per billion, µg/m³: micrograms per cubic meter
* Data not available.
[1] On October 1, 2015 the EPA adopted a new 8-hour National ambient air quality standards (AAQS) for ozone of 0.070 ppm (70 ppb).

Air Quality Improvement Trends in the Air Basin

Development of SCAQMD rules through the 1970s and 1980s resulted in dramatic improvement in SoCAB air quality. Nearly all control programs developed through the early 1990s relied on (i) the development and application of cleaner technology; (ii) add-on emission controls, and (iii) uniform CEQA review throughout the SoCAB. Industrial emission sources have been significantly reduced by this approach and vehicular emissions have been reduced by technologies implemented at the state level by CARB.

Criteria Air Pollutant Trends

As discussed above, the SCAQMD is the lead agency charged with regulating air quality emission reductions for the entire SoCAB. It created AQMPs which represent a regional blueprint for achieving healthful air on behalf of the 16 million residents of the SoCAB. The historical improvement in air quality since the 1970's is

the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs and by utilizing uniform CEQA review throughout the SoCAB.

The 2012 AQMP states, "the remarkable historical improvement in air quality since the 1970's is the direct result of Southern California's comprehensive, multiyear strategy of reducing air pollution from all sources as outlined in its AQMPs," (SCAQMD 2012). Ozone, NO_X, VOC, and CO have been decreasing in the SoCAB since 1975 and are projected to continue to decrease through 2020 (CARB 2009; CARB 2013).[10] These decreases result primarily from motor vehicle controls and reductions in evaporative emissions. Although vehicle miles traveled in the SoCAB continue to increase, NO_X and VOC levels are decreasing because of the mandated controls on motor vehicles and the replacement of older polluting vehicles with lower-emitting vehicles. NO_X emissions from electric utilities have also decreased due to use of cleaner fuels and renewable energy. Ozone contour maps show that the number of days exceeding the national 8-hour standard has decreased between 1997 and 2007. In the 2007 period, there was an overall decrease in exceedance days compared with the 1997 period. The overall trends of PM_{10} and $PM_{2.5}$ in the air (not emissions) show an overall improvement since 1975. Direct emissions of PM_{10} have remained somewhat constant in the SoCAB and direct emissions of $PM_{2.5}$ have decreased slightly since 1975. Area wide sources (fugitive dust from roads, dust from construction and demolition, and other sources) contribute the greatest amount of direct particulate matter emissions.

Toxic Air Contaminants Trends

In 1984, as a result of public concern for exposure to airborne carcinogens, the CARB adopted regulations to reduce the amount of air toxic contaminant emissions resulting from mobile and area sources, such as cars, trucks, stationary products, and consumer products. According to the *Ambient and Emission Trends of Toxic Air Contaminants in California* journal article which was prepared for CARB, results show that between 1990-2012, ambient concentration and emission trends for the seven TACs responsible for most of the known cancer risk associated with airborne exposure in California have declined significantly (Propper 2015). The decline in ambient concentration and emission trends of these TACs are a result of various regulations CARB has implemented to address cancer risk. [11]

Existing Emissions

The project site contains an operational dairy farm and onsite residences. Operation of this land use generates criteria air pollutant emissions from natural gas used for energy, heating, and cooking; vehicle trips associated with employees and residents; and area sources such as landscaping and agricultural equipment and consumer cleaning products.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution (i.e., toxic air contaminants) 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.

[10] See Appendix C1 of this DEIR for further details.
[11] See Appendix C1 of this DEIR for further details.

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 the workers tend to stay indoors most of the time. In addition, the workforce is generally the healthiest segment of the population.

As shown in Figure 5.2-1, *Project Site and Off-Site Sensitive Receptors,* the nearest off-site sensitive receptors to the project site include the two residences to the north across Eucalyptus Avenue, the residences to the west across Euclid Avenue, and the residences to the northwest. In addition, other sensitive receptors include the residences along Euclid Avenue between State Route 60 (SR-60) and State Route 71 (SR-71).

5.2.2 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.

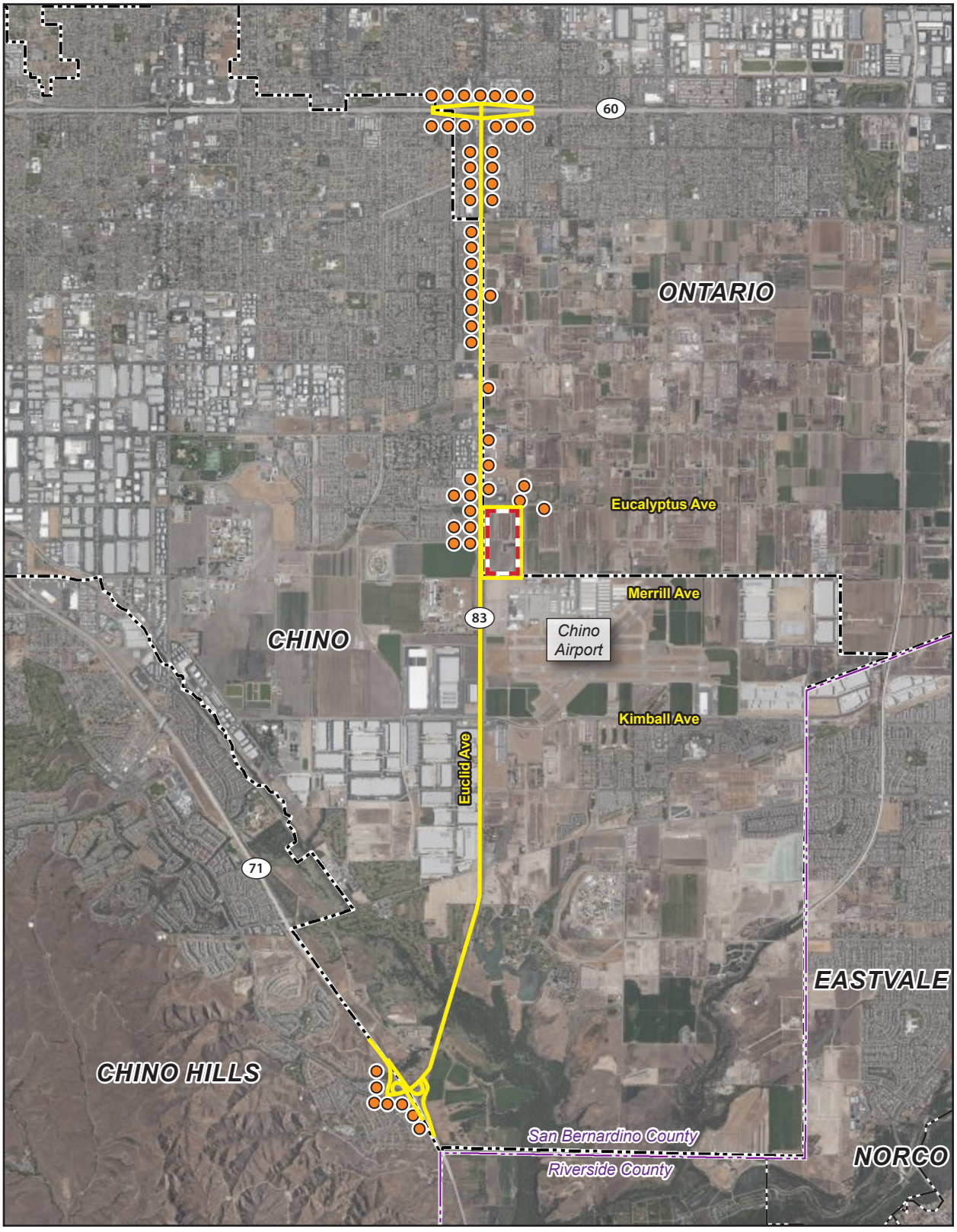
5.2.2.1 SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT THRESHOLDS

The analysis of the proposed project's air quality impacts follows the guidance and methodologies recommended in SCAQMD's *CEQA Air Quality Handbook* and the significance thresholds on SCAQMD's website (SCAQMD 1993).[12] CEQA allows the significance criteria established by the applicable air quality management or air pollution control district to be used to assess impacts of a project on air quality. SCAQMD has established thresholds of significance for regional air quality emissions for construction activities and project operation based on substantial evidence.

[12] The SCAQMD is currently in the process developing an "Air Quality Analysis Guidance Handbook" to replace its CEQA Air Quality Handbook. While the new handbook is being prepared, SCAQMD has made available supplemental information and guidance including updated significance thresholds, of which this analysis utilizes. The SCAQMD's Air Quality Significance Thresholds are current as of March 2015 and can be found at: http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook.

Figure 5.2-1 - Project Site and Off-Site Sensitive Receptors

5. Environmental Analysis



Source: ESRI, 2019

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Regional Significance Thresholds

SCAQMD has adopted regional construction and operational emissions thresholds to determine a project's cumulative impact on air quality in the SoCAB, shown in Table 5.2-5. 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, SCAQMD has not developed thresholds for them.

Table 5.2-5 SCAQMD Significance Thresholds

Air Pollutant	Construction Phase	Operational Phase
Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)	75 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: SCAQMD 2019c

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 (O_3, $PM_{2.5}$)
- Increases bronchitis (O_3, $PM_{2.5}$)
- Causes chest discomfort, throat irritation, and increased effort to take a deep breath (O_3)
- Reduces resistance to infections and increases fatigue (O_3)
- Reduces lung growth in children ($PM_{2.5}$)
- Contributes to heart disease and heart attacks ($PM_{2.5}$)
- Contributes to premature death (O_3, $PM_{2.5}$)
- Contributes to lower birth weight in newborns ($PM_{2.5}$) (SCAQMD 2000)

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 (SCAQMD 2015b).

Mass Emissions and Health Effects

On December 24, 2018, in the case, *Sierra Club v. County of Fresno (Friant Ranch, L.P.) (2018) 6 Cal.5th 502, Case No. S21978* (Friant Ranch), the California Supreme Court determined that the EIR for the proposed Friant Ranch project failed to adequately analyze the project's air quality impacts on human health. The EIR prepared for the project, which involved a master planned retirement community in Fresno County, showed that project-related mass emissions would exceed the San Joaquin Valley Air Pollution Control District's (SJVAPCD) regional significance thresholds. In its findings, the California Supreme Court affirmed the holding of the Court of Appeal that EIRs for projects must not only identify impacts to human health, but also provide an "analysis of the correlation between the project's emissions and human health impacts" related to each criteria air pollutant that exceeds the regional significance thresholds or explain why it could not make such a connection. In general, the ruling focuses on the correlation of emissions of toxic air contaminants and criteria air pollutants and their impact to human health.

SCAQMD 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, SCAQMD prepares an AQMP that details regional programs to attain the AAQS. Mass emissions in Table 5.2-5 are not correlated with concentrations of air pollutants but contribute to the cumulative air quality impacts in the SoCAB. Therefore, regional emissions from a single project do not single-handedly trigger a regional health impact. The SCAQMD CEQA significance thresholds in Table 5.2-5 are based on the trigger levels for the federal New Source Review (NSR) Program. The NSR Program was created to ensure projects are consistent with attainment of health-based federal ambient air quality standards. The federal ambient air quality standards establish the levels of air quality necessary, with an adequate margin of safety, to protect the public health of sensitive populations such as asthmatics, children, and the elderly. Therefore, projects that do not exceed the SCAQMD regional significance thresholds 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 5.2-5, emissions would cumulatively contribute to the nonattainment status and would contribute in elevating health effects associated to 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 5.2-5, 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 above.

SCAQMD has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in *Friant Ranch*. Ozone concentrations are dependent upon 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 within the SoCAB exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until such time the attainment standard 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 the attainment by SCAQMD did not predict a violation of CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon periods.[13] As identified in SCAQMD'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—in order to generate a significant CO impact (BAAQMD 2017).[14]

Localized Significance Thresholds

The SCAQMD identifies localized significance thresholds, shown in Table 5.2-6. Emissions of NO_2, CO, PM_{10}, and $PM_{2.5}$ generated at a project site (offsite mobile-source emissions are not included in the LST analysis) could expose sensitive receptors to substantial concentrations of criteria air pollutants. A project that generates emissions that trigger a violation of the AAQS when added to the local background concentrations would generate a significant impact.

[13] 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.

[14] 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 SCAQMD prepared as part of its 2003 AQMP to provide support in seeking CO attainment for the SoCAB. Based on the analysis prepared by SCAQMD, 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.

Table 5.2-6 SCAQMD 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 (SCAQMD)[1]	10.4 µg/m^3
24-Hour $PM_{2.5}$ Standard – Construction (SCAQMD)[1]	10.4 µg/m^3
24-Hour PM_{10} Standard – Operation (SCAQMD)[1]	2.5 µg/m^3
24-Hour $PM_{2.5}$ Standard – Operation (SCAQMD)[1]	2.5 µg/m^3
Annual Average PM_{10} Standard (SCAQMD)[1]	1.0 µg/m^3

Source: SCAQMD 2019c.
ppm – parts per million; µg/m^3 – micrograms per cubic meter
[1] Threshold is based on SCAQMD Rule 403. Since the SoCAB is in nonattainment for PM_{10} and $PM_{2.5}$, the threshold is established as an allowable change in concentration. Therefore, background concentration is irrelevant.

To assist lead agencies, SCAQMD developed screening-level LSTs to back-calculate the mass amount (lbs. per day) of emissions generated onsite that would trigger the levels shown in Table 5.2-6 for projects under five acres. These "screening-level" LSTs tables are the localized significance thresholds for all projects of five acres and less; however, they can be used as screening criteria for larger projects to determine whether or not dispersion modeling may be required.

The construction and operational screening-level LSTs in SRA 33 are shown in Table 5.2-7. For construction activities, LSTs are based on the acreage disturbed per day based on equipment use (SCAQMD 2011). The different types of construction activities would require different equipment mixes, resulting in multiple LSTs. The operational screening-level LSTs are based on a 5-acre site.

Table 5.2-7 SCAQMD Screening-Level Localized Significance Thresholds

	Threshold (lbs/day)[1]			
Acreage Disturbed	Nitrogen Oxides (NO_X)	Carbon Monoxide (CO)	Coarse Particulates (PM_{10})	Fine Particulates ($PM_{2.5}$)
Construction				
=<1.00 Acre Disturbed Per Day	118	863	5.00	4.00
1.50 Acres Disturbed Per Day	144	1,047	5.50	4.50
2.00 Acres Disturbed Per Day	170	1,232	6.00	5.00
2.50 Acres Disturbed Per Day	187	1,392	7.66	5.67
3.00 Acres Disturbed Per Day	203	1,552	9.33	6.33
5.00 Acres Disturbed Per Day	270	2,193	15.99	9.00
Operation				
5-Acre Site	270	2,193	4.00	2.00

Source: SCAQMD 2008b and SCAQMD 2011, Based on receptors in SRA 33.
[1] Screening-level LSTs are based on receptors within 82 feet (25 meters).

Health Risk

Whenever a project would use chemical compounds identified in SCAQMD Rule 1401, on CARB's air toxics list pursuant to AB 1807, or on the EPA's National Emissions Standards for Hazardous Air Pollutants, a health risk assessment is required by the SCAQMD. Table 5.2-8 lists the SCAQMD's TAC incremental risk thresholds for operation of a project. Projects that do not generate emissions that exceed the values in Table 5.2-8 would not substantially contribute to cumulative air quality hazards or exacerbate an existing environmental hazard.

Table 5.2-8 SCAQMD 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: 2019c

Under the California Supreme Court's decision in *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369 (Case No. S213478), where a project will exacerbate an existing environmental hazard, CEQA requires an analysis of the worsened condition on future project residents and the public at large. Projects that do not generate emissions that exceed the values in Table 5.2-8 would not substantially contribute to cumulative air quality hazards or exacerbate an existing environmental hazard. Residential, commercial, office, and institutional uses (such as the hospital land uses) do not use substantial quantities of TACs and typically do not exacerbate existing hazards. Thus, these thresholds are typically applied to new industrial and warehouse projects.

5.2.3 Plans, Programs, and Policies

Plans, Programs, and Policies

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 2016 Building Energy Efficiency Standards were effective starting on January 1, 2017, and the 2019 Building Energy Efficiency Standards will become Effective January 1, 2020. 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 non-residential 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 (SCAQMD) 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.

PPP AIR-5 The heavy-heavy duty tractors and trailers (i.e., trucks that are 53-foot or longer) must use US 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 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 USEPA'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 2018-2027 for certain trailers and model years 2021-2027 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.

Project Design Features

PDF AQ-1 Indoor material handling equipment used throughout the project area would be electric and would not be propane or diesel-powered.

PDF AQ-2 The tilt-up concrete warehouse buildings would have rooftops that can support tenant improvements for solar panels (i.e., solar ready).

PDF AQ-3 The project would include installation of electric vehicle charging stations to service 71 parking stalls for electric vehicles and 101 clean air/vanpool parking stalls at the project site.

5.2.4 Environmental Impacts

5.2.4.1 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. SCAQMD has published the *CEQA Air Quality Handbook* (Handbook) and updates on its website that 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 EIRs, and they were used in this analysis. The following provides a summary of the assumptions utilized for the proposed project analysis.

Regional Operational Phase Emissions

- **Transportation:** The average daily trip (ADT) generation and average trip distance traveled for passenger vehicles and trucks was provided by Urban Crossroads. Overall, the proposed project would generate up to 4,328 weekday ADTs (non-passenger equivalent) consisting of 3,532 passenger vehicle ADTs and 796 medium- and heavy-heavy duty truck ADTs. Passenger vehicles are anticipated to average 16.5 miles per trip. Medium- (2 to 4 axle) and heavy-heavy duty trucks (4+-axle trucks) are anticipated to average 40 miles per trip. For further details, refer to Appendix A of Appendix L1. Project-related on-road criteria air pollutant emissions are based on year 2022 emission rates. The default CalEEMod emissions rates for year 2022 were updated with emission rates derived from EMFAC2017, Version 1.0.2[15], and CalEEMod methodology. The primary source of mobile criteria air pollutant emissions is tailpipe exhaust emissions from the combustion of fuel (i.e., gasoline and diesel). Additionally, for criteria air pollutants, brake and tire wear along with fugitive dust created from vehicles traveling roadways also generate particulate matter.

- **Transport Refrigeration Units.** Emissions from transport refrigeration units (TRUs) are based on the operation of 69 trucks with TRUs per day, 30 minutes of idling per unit, and calendar year 2022 aggregated Instate Trailer TRU emission rates obtained from OFFROAD2017, Version 1.0.1.

- **Area Sources.** Area source emissions from use of consumer cleaning products, landscaping equipment, and VOC emissions from paints are based on CalEEMod default values and the square footage of the proposed buildings and surface parking lot areas.

- **Off-Road Equipment**. It is anticipated the proposed project would utilize up to 125 electric forklifts and 7 yard trucks for daily operations. The yard trucks would consist of 3 units powered by diesel and 4 units powered by compressed natural gas (CNG) with each that would operate for 4 hours per day and

[15] The US EPA approved the EMFAC2017 emissions model for SIP and conformity purposes, effective August 15, 2019.

365 days per year.[16] Diesel- and CNG-powered yard truck emissions are based on calendar year 2022 OFFROAD2017, Version 1.0.1, emission factors for a 175 horsepower rail yard tractor and an airport fuel truck, respectively.

- **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 by nonresidential land uses. New buildings are modeled to comply with the 2019 Building Energy Efficiency Standards, which are 30 percent more energy efficient for non-residential buildings than the 2016 Building Energy Efficiency Standards. Criteria air pollutant emissions from energy use are associated with natural gas used for heating.

Regional Construction Phase Emissions

Construction of the proposed project is anticipated to commence October 2020 and be completed in December 2022, a duration of approximately 26 calendar months. Table 5.2-9 shows the assumed construction activities, phasing, and construction equipment based on information provided and CalEEMod defaults. Emissions of VOC would primarily be from the application of paints, asphalt pavement, and operation of construction vehicles and off-road equipment. Emissions of NO_X, CO, and SO_X would primarily be generated from operation of off-road construction equipment in addition to construction worker and vendor vehicles. Coarse and fine particulate matter (PM_{10} and $PM_{2.5}$) exhaust emissions would also be generated from operation of off-road construction equipment and construction and vendor vehicle trips. In addition, fugitive dust emissions of PM_{10} and $PM_{2.5}$ would be generated from demolition and ground disturbance activities and movement of earthen material.

Table 5.2-9 Construction Activities, Phasing and Equipment

Activities[1]	Start/End Dates[1]	Equipment[1, 2]
Offsite		
Asphalt Demolition	10/01/2020 to 10/28/2020	1 Rubber Tired Dozer, 1 Tractor/Loader/Backhoe, 1 Dumper/Tender, 1 Water Truck
Asphalt Demolition Debris Onsite Processing	10/01/2020 to 10/28/2020	1 Crushing/Processing Equipment
Fine Grading	01/02/2021 to 09/01/2021	1 Tractor/Loader/Backhoe, 1 Hydraulic Jackhammer, 1 Concrete Saw, 1 Dumper/Tender, 1 Water Truck
Utility Trenching	09/01/2021 to 10/31/2021	1 Tractor/Loader/Backhoe, 1 Concrete Saw, 1 Excavator, 1 Crane, 1 Dumper/Tender, 1 Water Truck
Asphalt Paving	11/01/2021 to 11/30/2021	1 Paving Equipment, 1 Roller, 1 Concrete Truck
Finishing/Landscaping	11/01/2021 to 01/31/2022	3 Tractors/Loaders/Backhoes
Phase 1		
Building Demolition	10/05/2020 to 10/16/2020	2 Tractors/Loaders/Backhoes, 2 Excavators, 2 Water Trucks
Building Demolition Debris Haul	10/19/2020 to 10/19/2020	1 Excavator
Building Demolition Debris Onsite Processing	10/19/2020 to 10/19/2020	1 Crushing/Processing Equipment
Asphalt Demolition	10/19/2020 to 11/30/2020	2 Tractors/Loaders/Backhoes, 2 Excavators, 2 Water Trucks
Asphalt Demolition Debris Haul	11/25/2020 to 11/27/2020	No Additional Equipment

[16] Based on 3.6 yard trucks per million square feet of building space (SCAQMD 2014).

Table 5.2-9 Construction Activities, Phasing and Equipment

Activities[1]	Start/End Dates[1]	Equipment[1, 2]
Asphalt Demolition Debris Onsite Processing	11/24/2020 to 11/30/2020	1 Crushing/Processing Equipment
Rough Grading	12/01/2020 to 01/11/2021	6 Scrapers, 1 Crawler Tractor, 2 Rubber Tired Dozers, 2 Graders, 3 Water Trucks
Rough Grading Soil Haul	12/01/2020 to 01/13/2021	1 Excavator
Utility Trenching	01/12/2021 to 03/12/2021	2 Excavators, 3 Tractors/Loaders/Backhoes, 2 Water Trucks
Building Construction	01/00/1900 to 01/00/1900	3 Cranes, 2 Rough Terrain Forklifts
Fine Grading	01/12/2021 to 12/21/2021	2 Graders, 1 Scraper, 2 Water Trucks
Finishing/Landscaping	03/15/2021 to 04/01/2021	3 Tractors/Loaders/Backhoes
Asphalt Paving	08/02/2021 to 10/25/2021	1 Grader, 1 Paver, 1 Roller
Architectural Coating	09/01/2021 to 09/10/2021	1 Air Compressor
Phase 2		
Building Demolition	10/05/2020 to 10/09/2020	2 Tractors/Loaders/Backhoes, 2 Excavators, 2 Water Trucks
Building Demolition Debris Haul	10/19/2020 to 10/19/2020	2 Excavators
Building Demolition Debris Onsite Processing	10/19/2020 to 10/19/2020	1 Crushing/Processing Equipment
Asphalt Demolition	10/19/2020 to 11/13/2020	2 Tractors/Loaders/Backhoes, 2 Excavators, 2 Water Trucks
Asphalt Demolition Debris Haul	11/25/2020 to 11/25/2020	2 Excavators
Asphalt Demolition Debris Onsite Processing	11/25/2020 to 11/26/2020	1 Crushing/Processing Equipment
Rough Grading	01/03/2022 to 01/21/2022	6 Scrapers, 1 Crawler Tractor, 2 Rubber Tired Dozers, 2 Graders, 3 Water Trucks
Rough Grading Soil Haul	01/03/2022 to 01/27/2022	1 Excavator
Utility Trenching	01/24/2022 to 12/01/2022	2 Excavators, 3 Tractors/Loaders/Backhoes, 2 Water Trucks
Building Construction	01/24/2022 to 03/02/2022	3 Cranes, 2 Rough Terrain Forklifts
Fine Grading	03/03/2022 to 03/14/2022	2 Graders, 1 Scraper, 2 Water Trucks
Finishing/Landscaping	01/00/1900 to 01/00/1900	3 Tractors/Loaders/Backhoes
Asphalt Paving	08/01/2022 to 09/30/2022	1 Grader, 1 Paver, 1 Roller
Architectural Coating	08/01/2022 to 11/24/2022	1 Air Compressor

Notes: n/a = not applicable
[1] Based on information provided by the Applicant, CalEEMod defaults, and comparable project.
[2] A water truck is assumed for the demolition, site preparation, and grading subphases.

Health Risk Assessment

In March 2015, OEHHA adopted new guidance for the preparation of health risk assessments (OEHHA 2015). It developed a cancer risk factor and non-cancer chronic reference exposure level (REL) for DPM based on continuous exposure over a 30-year time frame. No short-term acute exposure levels (i.e., 1-hour or 8-hour RELs) that correlate with typical construction activity time frames have been developed for DPM.

The United States Environmental Protection Agency (US EPA) AERMOD, Version 9.7, dispersion modeling program was used to determine ground-level DPM concentrations. For the construction HRA, the 2015 OEHHA guidance was used to estimate excess lifetime cancer risk and chronic non-cancer hazard index for

non-carcinogenic risk at the nearest sensitive receptors. For the operational HRA, CARB's Hotspots Analysis and Reporting Program (HARP2) Risk Assessment Standalone Tool (CARB 2019b) were used to estimate excess lifetime cancer risks and chronic noncancer hazard indices at the nearest sensitive receptors. The risk assessment is based on the maximum modeled receptor concentration over the construction exposure period, conservatively assuming a 24-hour per day outdoor exposure and averaged over a 70-year lifetime.

Operational emission sources evaluated in the HRA include the diesel long-haul trucks and yard trucks traveling on-site over the ingress and egress driveways and idling at truck bays. Additionally, the HRA included the emissions from diesel trucks traveling to- and from the site along Euclid Avenue and the streets surrounding the site toward SR-60 to the north and SR-71 to the south. The evaluated truck volumes, truck fleet mix, and number equipped with TRUs based on the Traffic Impact Analysis prepared by Urban Crossroads (see Appendices L1 and L2). Receptors within 1,000 feet of the haul route were also included in the operational modeling.

The full methodology and results of the construction and operational HRA are provided in Appendix C2).

The following impact analysis addresses thresholds of significance for which the Initial Study disclosed potentially significant impacts. The applicable thresholds are identified in brackets after the impact statement.

Impact 5.2-1: Construction activities associated with the proposed project would generate short-term VOC and NO_X emissions in exceedance of SCAQMD's threshold criteria. [Threshold AQ-2]

Impact Analysis: Construction activities would temporarily increase PM_{10}, $PM_{2.5}$, VOC, NO_X, SO_X, and CO regional emissions in the SoCAB. The primary source of NO_x, CO, and SO_x emissions is the operation of construction equipment. The primary sources of particulate matter (PM_{10} and $PM_{2.5}$) emissions are activities that disturb the soil, such as grading and excavation, road construction, and building demolition and construction. The primary source of VOC emissions is the application of architectural coating and off-gas emissions associated with asphalt paving. A discussion of health impacts associated with air pollutant emissions generated by construction activities is included in section 5.2.1, *Environmental Setting, Air Pollutants of Concern*.

The proposed project is anticipated to be constructed over an approximately 26-month period from October 2020 to December 2022. Construction air pollutant emissions are based on the preliminary information provided by the Applicant and CalEEMod defaults and are subject to changes during final design and as dictated by field conditions. Construction would entail demolition of existing asphalt and buildings, on-site reprocessing of demolition debris, export of demolition debris, site preparation, grading, utility trenching, soil hauling, construction of the proposed buildings, architectural coating, and asphalt paving. An estimate of maximum daily construction emissions for the proposed project is provided in Table 5.2-10.

Table 5.2-10 Maximum Daily Regional Construction Emissions

Construction Year	Pollutants (pounds per day)[1, 2]					
	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 2020	9	118	56	<1	14	7
Year 2021	305	123	66	<1	17	8
Year 2022	104	99	56	<1	17	7
Maximum Daily Emissions	305	123	66	<1	17	7
SCAQMD Regional Construction Threshold	75	100	550	150	150	55
Significant?	Yes	Yes	No	No	No	No

Source: CalEEMod Version 2016.3.2

Notes: Emissions totals may not equal 100 percent due to rounding. **Bold** = Exceedance

[1] Based on the preliminary information provided by the Applicant. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment.

[2] Includes implementation of fugitive dust control measures required by SCAQMD under Rule 403 (PPP AIR-4), 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 the table, construction activities associated with development of the project could potentially exceed the SCAQMD regional threshold for VOC and NO_X. The maximum daily emission of 305 lbs/day of VOC would occur during the overlap of the Phase 1 building construction, Phase 1 architectural coating, Offsite asphalt paving, and Offsite finishing/landscaping activities. For NO_X, the maximum daily emission of 123 lbs/day would be generated during the overlap of the Phase 1 rough grading, Phase 1 rough grading soil haul, and offsite utility trenching activities. The primary source of NO_X emissions is vehicle and construction equipment exhaust. NO_X is a precursor to the formation of both O_3 and particulate matter (PM_{10} and $PM_{2.5}$). The primary source of VOC, which is a precursor to the formation of O_3, would be from paints used for architectural coating and parking lot surface striping. Project-related emissions of VOC and NO_X would contribute to the O_3, NO_2, PM_{10}, and $PM_{2.5}$ nonattainment designations of the SoCAB. Therefore, project-related construction activities would result in potentially significant regional air quality impacts.

Level of Significance Before Mitigation: Potentially significant impact.

Impact 5.2-2: Long-term operation of the project would generate emissions in exceedance of SCAQMD's threshold criteria. [Threshold AQ-2]

Impact Analysis: Buildout of the proposed project would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area sources (e.g., aerosols and landscaping equipment). Long-term air pollutant emissions generated by a warehousing development are typically associated with the burning of fossil fuels in cars and trucks (mobile sources); energy use for cooling, heating, and manufacturing (energy); and area sources such as architectural coatings, landscape equipment, and off-road equipment used for daily operations (e.g., yard trucks). Table 5.2-11 identifies the maximum daily criteria air pollutant emissions that would result from implementation of the proposed project.

Table 5.2-11 Maximum Daily Regional Operational Phase Emissions

Sources	Criteria Air Pollutants (lbs/day)					
	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Area	43	<1	<1	<1	<1	<1
Energy	<1	3	3	<1	<1	<1
Mobile – Passenger Vehicles[1]	12	13	159	<1	45	12
Mobile – Transport Trucks[1]	5	105	31	1	31	10
Transport Refrigeration Units[2,3]	1	4	6	<1	<1	<1
Off-Road Equipment[4]	<1	3	31	<1	<1	<1
Maximum Daily Emissions	61	129	231	1	76	23
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold	Yes	Yes	No	No	No	No

Source: CalEEMod, Version 2016.3.2. Based on trip generation information provided by Urban Crossroads (Appendix L1).
Notes: Highest winter or summer. Emissions totals may not equal 100 percent due to rounding. **Bold** = Exceedance.
1 Based on calendar year 2022 aggregated emission rates derived EMFAC2017 Version 1.0.2 and CalEEMod methodology.
2 Based on calendar year 2022 aggregated Instate Trailer TRU emission rates obtained from OFFROAD2017 Version 1.0.1.
3 Based on 69 trucks with TRUs per day and 30 mins of idling per truck per day.
4 Based on three diesel-powered and four CNG-powered yard trucks at the facility operating for four hours per day. Emissions based on emission rates for a 175 horsepower diesel-powered rail yard tractor and CNG-powered airport fuel truck derived from OFFROAD2017 Version 1.0.1.

As shown in the table, project-related air pollutant emissions from daily operations would exceed the SCAQMD's regional emissions thresholds for VOC and NO_X. The primary sources of long-term criteria air pollutant emissions would be project-generated vehicle trips use of forklifts onsite. As stated, the proposed project would generate up to 4,328 weekday ADTs (non-passenger equivalent) consisting of 3,532 passenger vehicle ADTs and 796 medium- and heavy-heavy duty truck ADTs. Additionally, it is anticipated the project would result in the use of up to 3 diesel-powered and 4 CNG-powered yard trucks in daily operations along with up to 69 trucks fitted with TRUs. Emissions of VOC and NO_x that exceed the SCAQMD regional threshold would cumulatively contribute to the O_3 nonattainment designation of the SoCAB. Emissions of NO_x that exceed SCAQMD's regional significance thresholds would also cumulatively contribute to the particulate matter (PM_{10} and $PM_{2.5}$) nonattainment designations of the SoCAB. Therefore, the project would result in a potentially significant impact because it would significantly contribute to the nonattainment designations of the SoCAB.

Overlap of Construction and Operational Phase

The SCAQMD does not have a significance threshold for construction/operation overlap; therefore, this analysis is included for informational purposes only. Table 5.2-12 shows the maximum daily emissions for a scenario where project-related construction and operation activities overlap. Based on the development timeline for the proposed project, it is anticipated that occupancy of buildings and operation of businesses would not occur until 2022 and after the completion of Phase 1 of the proposed project. For purposes of this discussion, the maximum daily combined emissions shown in the table represent a conservative scenario as the maximum daily operational emissions are based on full buildout of the project. In practicality, if overlap of project-related construction and operation activities were to occur, only a proportion of the proposed project would be operational while the rest are constructed.

Table 5.2-12 Potential Overlap of Construction and Operational Activities

Maximum Daily Emissions	Emissions (pounds per day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Year 2022 Construction Peak Emissions	104	99	56	<1	14	7
Year 2022 Maximum Operational Emissions	61	129	231	1	76	23
Max Daily Combined Emissions[1]	165	228	287	1	90	29

Source: CalEEMod, Version 2016.3.2.
Notes:
[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: Potentially significant impact.

Impact 5.2-3: Construction-related emissions associated with land uses accommodated under the proposed project would not expose sensitive receptors to substantial concentrations of criteria air pollutants. [Threshold AQ-3]

Impact Analysis: Development of new land uses that would be accommodated under the proposed project could generate new sources of criteria air pollutants from construction equipment exhaust and fugitive dust (criteria air pollutants only). Implementation of the proposed project could expose sensitive receptors to elevated pollutant concentrations during construction activities if it would cause or contribute significantly to elevating those levels. Unlike the mass of construction emissions shown in Table 5.2-10, described in pounds per day, localized concentrations refer to an amount of pollutant in a volume of air (ppm or $\mu g/m^3$) and can be correlated to potential health effects.

Construction Phase Localized Significance Thresholds (LSTs)

The screening-level LSTs are the amount of project-related emissions at which localized concentrations (ppm or $\mu g/m^3$) could exceed the AAQS for criteria air pollutants for which the SoCAB is designated nonattainment. They are based on the proposed project size and distance to the nearest sensitive receptor.

Table 5.2-13 shows the maximum daily construction emissions (pounds per day) generated during onsite construction activities compared with the SCAQMD's screening-level construction LSTs. As shown in the table, construction-related activities would not generate emissions that would exceed the screening-level LSTs. Thus, project-related construction emissions would not exceed the California AAQS, and project construction would not expose sensitive receptors to substantial pollutant concentrations. Therefore, localized construction-related impacts would be less than significant.

Table 5.2-13 Maximum Daily Onsite Construction Emissions Compared to the Localized Significance Thresholds

Construction Phase	Pollutants (pounds per day)[1, 2]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Year 2020				
Offsite Asphalt Demolition & Offsite Asphalt Demolition Debris Processing Overlap	22	11	0.99	0.93
Phase 1 Asphalt Demolition	13	9	0.46	0.42
Phase 1 Asphalt Demolition & Phase 1 Asphalt Demolition Debris Processing Overlap	21	14	0.74	0.70
Phase 1 Asphalt Demolition, Phase 1 Asphalt Demolition Debris Processing, & Phase 1 Asphalt Demolition Debris Haul Overlap	21	14	1.38	0.80
Phase 1 Asphalt Demolition, Phase 1 Asphalt Demolition Debris Processing, Phase 1 Asphalt Demolition Debris Haul, Phase 2 Asphalt Demolition Debris Haul, & Phase 2 Asphalt Demolition Debris Processing Overlap	36	23	2.51	1.37
Phase 1 Asphalt Demolition, Phase 1 Asphalt Demolition Debris Processing, Phase 1 Asphalt Demolition Debris Haul, & Phase 2 Asphalt Demolition Debris Processing Overlap	29	19	1.66	1.08
1.00-Acre or Less LST	118	863	5.00	4.00
Exceeds LST?	No	No	No	No
Offsite Asphalt Demolition, Offsite Asphalt Demolition Debris Processing & Phase 1 Building Demolition Overlap	35	21	1.44	1.35
Phase 1 Asphalt Demolition & Phase 2 Asphalt Demolition Overlap	27	18	0.91	0.84
2.00-Acre LST	170	1,232	6.00	5.00
Exceeds LST?	No	No	No	No
Offsite Asphalt Demolition, Offsite Asphalt Demolition Debris Processing, Phase 1 Building Demolition, & Phase 2 Building Demolition Overlap	49	30	1.90	1.77
Offsite Asphalt Demolition, Offsite Asphalt Demolition Debris Processing, Phase 1 Building Demolition Debris Processing, Phase 1 Building Demolition Debris Haul, Phase 1 Asphalt Demolition, Phase 2 Building Demolition Debris Haul, Phase 2 Building Demolition Debris Processing, & Phase 2 Asphalt Demolition Overlap	74	46	3.29	2.70
Offsite Asphalt Demolition, Offsite Asphalt Demolition Debris Processing, Phase 1 Asphalt Demolition, & Phase 2 Asphalt Demolition Overlap	49	30	1.90	1.77
3.00-Acre LST	203	1,552	9.33	6.33
Exceeds LST?	No	No	No	No
Phase 1 Rough Grading & Phase 1 Rough Grading Soil Haul Overlap	96	50	12.39	6.70
5.00-Acre LST	270	2,193	15.99	9.00
Exceeds LST?	No	No	No	No
Year 2021				
Offsite Utility Trenching & Phase 1 Building Construction Overlap	26	21	1.33	1.24
Phase 1 Building Construction, Offsite Fine Grading, & Phase 1 Architectural Coating Overlap	23	20	1.25	1.18
1.00-Acre or Less LST	80	574	4.00	3.00
Exceeds LST?	No	No	No	No

Table 5.2-13 Maximum Daily Onsite Construction Emissions Compared to the Localized Significance Thresholds

Construction Phase	Pollutants (pounds per day)[1, 2]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Offsite Utility Trenching, Phase 1 Building Construction, & Phase 1 Fine Grading Overlap	50	29	3.10	2.13
Phase 1 Building Construction, Phase 1 Architectural Coating, Offsite Asphalt Paving, & Offsite Finishing/Landscaping Overlap	29	24	1.48	1.37
Phase 1 Building Construction, Offsite Asphalt Paving, & Offsite Finishing/Landscaping Overlap	27	23	1.39	1.28
Phase 1 Building Construction & Offsite Finishing/Landscaping Overlap	21	16	1.04	0.96
Offsite Finishing/Landscaping	7	7	0.31	0.29
1.50-Acre LST	144	1,047	5.50	4.50
Exceeds LST?	No	No	No	No
Phase 1 Rough Grading Soil Haul, Offsite Utility Trenching, Phase 1 Utility Trenching, & Phase 1 Building Construction Overlap	43	33	1.99	1.81
Offsite Utility Trenching, Phase 1 Utility Trenching, & Phase 1 Building Construction Overlap	41	31	1.86	1.72
Offsite Utility Trenching, Phase 1 Building Construction, & Phase 1 Finishing/Landscaping Overlap	34	27	1.64	1.53
Phase 1 Building Construction, Phase 1 Finishing/Landscaping, & Offsite Fine Grading Overlap	29	25	1.47	1.38
Phase 1 Building Construction, Phase 1 Finishing/Landscaping, Offsite Fine Grading, & Phase 1 Architectural Coating Overlap	30	26	1.56	1.47
2.00-Acre LST	170	1,232	6.00	5.00
Exceeds LST?	No	No	No	No
Phase 1 Building Construction, Phase 1 Finishing/Landscaping, Offsite Fine Grading, & Phase 1 Asphalt Paving Overlap	42	33	2.04	1.90
2.50-Acre LST	187	1,392	7.66	5.67
Exceeds LST?	No	No	No	No
Offsite Utility Trenching, Phase 1 Building Construction, Phase 1 Finishing/Landscaping, Offsite Fine Grading, & Phase 1 Asphalt Paving Overlap	55	45	2.64	2.47
3.00-Acre LST	203	1,552	9.33	6.33
Exceeds LST?	No	No	No	No
Phase 1 Rough Grading & Phase 1 Rough Grading Soil Haul Overlap	89	48	12.09	6.43
Phase 1 Rough Grading, Phase 1 Rough Grading Soil Haul, & Offsite Utility Trenching Overlap	101	59	12.69	7.00
5.00-Acre LST	270	2,193	15.99	9.00
Exceeds LST?	No	No	No	No
Year 2022				
Phase 2 Building Construction	18	13	0.95	0.88
1.00-Acre or Less LST	80	574	4.00	3.00
Exceeds LST?	No	No	No	No
Offsite Finishing/Landscaping	6	6	0.26	0.24
Offsite Finishing/Landscaping & Phase 2 Rough Grading Soil Haul Overlap	8	9	0.37	0.31

Table 5.2-13 Maximum Daily Onsite Construction Emissions Compared to the Localized Significance Thresholds

Construction Phase	Pollutants (pounds per day)[1, 2]			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Phase 2 Utility Trenching & Phase 2 Building Construction Overlap	29	23	1.38	1.27
Phase 2 Building Construction, Phase 2 Finishing/Landscaping, & Phase 2 Architectural Coating Overlap	25	21	1.30	1.20
Phase 2 Building Construction & Phase 2 Finishing/Landscaping Overlap	24	19	1.22	1.12
1.50-Acre LST	144	1,047	5.50	4.50
Exceeds LST?	No	No	No	No
Phase 2 Building Construction & Phase 2 Fine Grading Overlap	39	21	2.61	1.67
Phase 2 Building Construction, Phase 2 Finishing/Landscaping, Phase 2 Architectural Coating, & Phase 2 Asphalt Paving Overlap	37	30	1.78	1.64
2.00-Acre LST	170	1,232	6.00	5.00
Exceeds LST?	No	No	No	No
Offsite Finishing/Landscaping, Phase 2 Rough Grading Soil Haul, Phase 2 Utility Trenching, & Phase 2 Building Construction Overlap	37	31	1.75	1.58
Offsite Finishing/Landscaping, Phase 2 Utility Trenching, Phase 2 Building Construction Overlap	35	29	1.64	1.51
3.00-Acre LST	203	1,552	9.33	6.33
Exceeds LST?	No	No	No	No
Offsite Finishing/Landscaping, Phase 2 Rough Grading, & Phase 2 Rough Grading Soil Haul Overlap	80	51	11.76	6.13
5.00-Acre LST	270	2,193	15.99	9.00
Exceeds LST?	No	No	No	No

Source: CalEEMod Version 2016.3.2; SCAQMD 2008, 2011. In accordance with SCAQMD methodology, only on-site stationary sources and mobile equipment occurring on the proposed project site are included. Screening-level LSTs are based on receptors within 82 feet (25 meters) of the project site.

Notes: Emissions totals may not equal 100 percent due to rounding.

1 Based on the information provided by the Applicant. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment.

2 Includes implementation of fugitive dust control measures required by SCAQMD under Rule 403 (PPP AIR-4), 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.

Level of significance Before Mitigation: Less than significant impact.

Impact 5.2-4: Project-related construction activities would not result in potentially significant cancer risk impacts to nearby off-site sensitive receptors. [Threshold AQ-3]

Impact Analysis: The proposed project would temporarily elevate concentrations TACs and DPM in the vicinity of sensitive land uses during construction activities. As stated, SCAQMD currently does not require health risk assessments for short-term emissions from construction equipment, which primarily consist of DPM. However, this analysis has been included to conservatively gauge the potential health risk-related impacts of short-term construction activities on off-site sensitive receptors.

The proposed project includes on-site improvements that would be developed over two development phases in addition to off-site infrastructure improvements, over a period of 27 months. The US EPA AERMOD, Version 9.7, dispersion modeling program was used to determine ground-level DPM concentrations, and the 2015 OEHHA guidance was used to estimate excess lifetime cancer risk and chronic non-cancer hazard index for non-carcinogenic risk at the nearest sensitive receptors. Results of the analysis are shown in Table 5.2-14.

Table 5.2-14 Construction Risk Summary

Receptor	Cancer Risk (per million)	Chronic Hazards
Maximum Exposed Receptor – Resident	9.4	0.022
Significance Thresholds	10	1.0
Exceeds Threshold?	No	No

Source: Appendix C2.
Note: Cancer risk calculated using 2015 OEHHA HRA guidance.

According to the modeling results, the residential maximum exposed receptor (MER) is the single-family residences across Eucalyptus Avenue near the northeast portion of the project site. As shown in Table 5.2-14, the maximum incremental cancer risk during the construction phase of the project at the residential MER is 9.4 per million, which would not exceed the significance threshold of 10 per million. For non-carcinogenic effects, the hazard index identified for each toxicological endpoint totaled less than one for the MER. Thus, chronic non-carcinogenic hazards are within acceptable limits. Therefore, off-site health risk impacts associated with project-related construction activities would be less than significant.

Level of significance Before Mitigation: Less than significant impact.

Impact 5.2-5: Long-term operation of the land uses associated with buildout of the proposed project would not expose sensitive receptors to substantial concentrations of criteria air pollutants and toxic air contaminants. [Threshold AQ-3]

Impact Analysis: Operation of new land uses that would be accommodated under the proposed project could generate new sources of criteria air pollutants and TACs in the project area from area/stationary sources and mobile sources.

Operational Phase LSTs

The screening-level LSTs are the amount of project-related stationary and area sources of emissions at which localized concentrations (ppm or $\mu g/m^3$) would exceed the ambient air quality standards for criteria air pollutants for which the SoCAB is designated a nonattainment area. Land uses that have the potential to generate substantial stationary sources of emissions or would require a permit from SCAQMD include industrial land uses, such as chemical processing, and warehousing operations where substantial truck idling could occur onsite. Onsite emissions include: truck maneuvering and idling, TRUs, and diesel- and CNG-powered yard trucks. Table 5.2-15 shows localized maximum daily operational emissions. As shown in the table, onsite project-related operational emissions would not exceed the screening-level LSTs. Therefore, localized criteria air pollutant emissions impacts from project-related operations would be less than significant.

Table 5.2-15 Localized Onsite Operational Emissions

Source	Pollutants (lbs/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Area Sources	<1	<1	<1	<1
Off-Road Equipment[1,2]	3	31	<1	<1
Onsite Truck Travel[3,4]	2	<1	<1	<1
Truck Idling[3]	5	3	<1	<1
Transport Refrigeration Units[5,6]	4	6	<1	<1
Maximum Daily Onsite Operation Emissions	14	41	1	<1
SCAQMD Screening-Level LST	270	2,193	4	2
Exceeds Screening-Level LST?	No	No	No	No

Source: CalEEMod Version 2016.3.2.; SCAQMD 2008.
Notes: In accordance with SCAQMD methodology, only onsite stationary sources and mobile equipment occurring on the proposed project site are included in the analysis. Operational LSTs are based on sensitive receptors within 82 feet (25 meters) of a 5.0-acre site in SRA 33.
1 Based on three diesel-powered and four CNG-powered yard trucks at the facility operating for four hours per day.
2 Based on calendar year 2022 emission rates for a 175 horsepower diesel-powered rail yard tractor and CNG-powered airport fuel truck derived from OFFROAD2017 Version 1.0.1.
3 Based on year 2022 emission rates derived EMFAC2017 Version 1.0.2 and CalEEMod methodology.
4 Based on the proportion of distance traveled onsite compared to the overall distance traveled. It is anticipated that each truck would travel approximately 0.61 mile onsite on average.
5 Based on 69 trucks with TRUs per day and 30 mins of idling per TRU per day.
6 Based on calendar year 2022 aggregated Instate Trailer TRU emission rates obtained from OFFROAD2017 Version 1.0.1.

Operational Phase Toxic Air Contaminants (TACs)

The SCAQMD requires an analysis of toxic air contaminants when the project generates emissions proximate to sensitive receptors in order to ensure that the proposed project does not expose sensitive receptors to substantial pollutant concentrations. Land uses that generate more than 100 truck trips per day have the potential to substantially increase TAC concentrations and health risks at off-site sensitive land uses within 1,000 feet of the facility.

Operation of the proposed project would generate TACs emissions from diesel truck activity (truck maneuvering and idling), TRUs, and diesel-fueled off-road equipment (i.e., yard trucks) in proximity to the same nearby sensitive receptors evaluated in the construction HRA (i.e., residents west and north of the project site). Receptors within 1,000 feet of the haul route were also included in the operational modeling. The EPA AERMOD air dispersion modeling program and CARB's Hotspots Analysis and Reporting Program (HARP2) Risk Assessment Standalone Tool (CARB 2019b) were used to estimate excess lifetime cancer risks and chronic noncancer hazard indices at the nearest sensitive receptors. The results of the unmitigated operational HRA are provided in Table 5.2-16.

Table 5.2-16 Operational HRA Results

Receptor	Sources	Cancer Risk[1] (per million)	Chronic Hazard Index
Maximum Exposed Receptor - Resident	All Sources	6.2	0.002
SCAQMD Threshold		10	1.0
Exceeds Threshold?		No	No

Sources: Appendix C2.
[1] OEHHA (2015) recommends that a 30-year (high end residency time) exposure duration be used to estimate individual cancer risk for the maximum exposed receptor. Provided for informational purposes, the 70-year (maximum lifetime exposure) and 9-year (central tendency exposure) cancer risks are 7.3 in a million and 4.4 in a million, respectively.

As shown in the table, cancer risks from all sources would be 6.2 in a million. In comparison to the significance threshold of 10 in a million, carcinogenic risks are below the threshold value for residents in vicinity of the project. For non-carcinogenic effects, the chronic hazard index identified for each toxicological endpoint totaled less than one for residents. Therefore, chronic non-carcinogenic hazards are below the significance threshold. Therefore, the project would not expose off-site sensitive receptors to substantial concentrations of air pollutant emissions during project operation and impacts would be less than significant.

Operational Phase CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO called hotspots. In 2007, the SoCAB was designated in attainment for CO under both the California AAQS and National AAQS. The CO hotspot analysis conducted for the attainment by SCAQMD did not predict a violation of CO standards at the busiest intersections in Los Angeles during the peak morning and afternoon periods.[17] As identified in SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide, peak carbon monoxide concentrations in the SoCAB in previous years, prior to redesignation, were a result of unusual meteorological and topographical conditions and not of congestion at a particular intersection (SCAQMD 1992; SCAQMD 2003).

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—in order to generate a significant CO impact (BAAQMD 2017). Full buildout of the proposed project would result in up to 392 peak hour (PM) trips. Thus, implementation of the proposed project would not produce the volume of traffic required (i.e., 24,000 to 44,000 peak hour vehicle trips) to generate a CO hotspot. Therefore, implementation of the proposed project would not have the potential to substantially increase CO hotspots at intersections in the vicinity of the project area, and impacts would be less than significant.

Level of significance Before Mitigation: Less than significant impact.

[17] 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.

Impact 5.2-6: Construction activities and long-term operation of the land uses associated with buildout of the proposed project would expose sensitive receptors to substantial concentrations of toxic air contaminants. [Threshold AQ-3]

Impact Analysis: The following evaluates the combined health risks from project-related construction and operational activities for a 30-year residential scenario. The risks levels shown in Table 5.2-17 are based on 2 years of exposure to construction emissions and 28 years of exposure to operational emissions. As shown in the table, total cancer risks from project-related construction and operational activities would be 13.0 in a million. In comparison to the significance threshold of 10 in a million, carcinogenic risks exceed the threshold value for residents in vicinity of the project. For non-carcinogenic effects, the chronic hazard index identified for each toxicological endpoint totaled less than one for residents. Therefore, chronic non-carcinogenic hazards are below the significance threshold. However, because cancer risks would exceed 10 in a million, the project would expose off-site residential receptors to substantial concentrations of toxic air contaminants during project construction and operation. Therefore, carcinogenic hazard impacts would be potentially significant.

Table 5.2-17 Combined Construction and Operational HRA

Source	Cancer Risk – 30-year Residential (per million)	Chronic Hazard Index
Construction Emissions – 2-year duration	9.4	0.022
Operational Emissions – 28-year duration	3.6	0.002
Cumulative Total	13.0	0.024
SCAQMD Threshold	10	1.0
Exceeds Threshold?	Yes	No

Sources: See Appendix C2

Level of significance Before Mitigation: Potentially significant.

Impact 5.2-7: The proposed project would generate long-term emissions in exceedance of the SCAQMD regional significance thresholds and be inconsistent with the applicable air quality management plan. [Threshold AQ-1]

Impact Analysis: The following describes potential air quality impacts and consistency with the AQMP from the implementation of the proposed project.

The SCAQMD is directly responsible for reducing emissions from area, stationary, and mobile sources in the SoCAB to achieve the National and California AAQS. It has responded to this requirement by preparing an AQMP. On December 7, 2012, the SCAQMD Governing Board adopted the 2012 AQMP, which is a regional and multiagency effort (SCAQMD, CARB, SCAG, and EPA). The SCAQMD Governing Board also recently adopted the 2016 AQMP. 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 efforts of the 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.

The two principal criteria for conformance with an AQMP are:

1. Whether the project would exceed the assumptions in the AQMP.

2. Whether the project would result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay timeline attainment of air quality standards.

SCAG is SCAQMD's partner in the preparation of the AQMP, providing the latest economic and demographic forecasts and developing transportation measures. Regional population, housing, and employment projects developed by SCAG are based, in part, on a City's General Plan land use designations. These projections form the foundation for the emissions inventory of the AQMP and are incorporated into the regional transportation plan/sustainable communities strategy (RTP/SCS) prepared by SCAG 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. Additionally, only large projects have the potential to substantially affect the demographic forecasts in the AQMP.

Criterion 1

Section 15206(b) of the CEQA Guidelines states that a proposed project is of statewide, regional, or area-wide significance if the project would involve a net increase of over 500,000 square feet of business establishment. The proposed project would occupy about 85 acres of land and introduce a net increase of approximately 1,577,153 square feet of warehousing floor space and 327,874 square feet of office space; therefore, it is a project of statewide, regional, or area-wide significance. As discussed in Section 5.13.1.2 and Impact 5.13-1 of this DEIR, implementation of the proposed project would not generate additional population growth as it would not result in the development of residential land uses. In addition, it would also not attract or induce population growth. Furthermore, while the proposed project would result in additional employees, as discussed in Impact 5.13-1, the projected employment for the proposed project would not exceed the forecasted employment for the region. Furthermore, while the proposed project would result in an increase in employment, it is anticipated that the jobs created would be filled by the local population and would thus improve the jobs-housing balance for the region. Thus, implementation of the proposed project would not have the potential to substantially affect demographic projections beyond what is accounted for in the current 2016 AQMP. Therefore, the proposed project would be considered consistent with the AQMP under the first criterion.

Criterion 2

With respect to the second criterion, the analyses in the response to Impact 5.2-2 shows that the proposed project would generate long-term emissions of criteria air pollutants that would exceed SCAQMD's regional operation-phase significance thresholds for VOC and NO_X (see Table 5.2-11), which were established to determine whether a project has the potential to cumulatively contribute to the SoCAB's nonattainment

designations. Thus, implementation of the proposed project would result in an increase in the frequency or severity of existing air quality violations; cause or contribute to new violations; or delay timely attainment of the AAQS. Therefore, overall, the proposed project would be considered inconsistent with the AQMP under the second criterion.

Approximately 95 percent of the project's NO_x emissions are from the transportation sector, and over 80 percent of the project's emissions are associated with VMT generated by trucks[18]. In general, the state strategy for the transportation sector for medium and heavy-duty trucks is focused on making trucks more efficient and expediting truck turnover rather than reducing VMT from trucks. This is in contrast to the passenger vehicle component of the transportation sector where both per-capita VMT reductions and an increase in vehicle efficiency are forecasted to be needed to achieve the overall state emissions reductions goals.

For the passenger vehicle emission, the proposed project outlines improvements to active and public transit facilities and includes a Circulation Plan to provide connectivity to the trails and bikeway corridors identified in the Ontario Multipurpose Trails and Bikeway Corridor Plan. Specifically, the proposed project includes and identifies installation of a Class II bikeway along Merrill Avenue and multipurpose trails along Euclid, Eucalyptus, and Merrill Avenues. It also includes provision of interior and exterior bicycle storage as a sustainable design strategy consistent with CALGreen. In addition to the trails and bikeways improvements, the City is coordinating with regional transit agencies to implement BRT service that would include the segment of Euclid Avenue along the western boundary of the project site. Improvement of active and public transit infrastructure would contribute to reducing passenger vehicle trips and VMT. Furthermore, the proposed project would install 71 parking stalls for electric vehicles (EV) and 101 clean air/vanpool parking stalls at the project site, which would contribute to and support the use of more EVs and ridesharing (see PDF AQ-3).

Emissions associated with heavy duty trucks involved in goods movements are generally controlled on the technology side and through fleet turnover of older trucks and engines to newer and cleaner trucks and engines. The first battery-electric heavy-heavy duty trucks are being tested this year and SCAQMD is looking to integrate this new technology into large-scale truck operations (SCAQMD 2019d). The following state strategies reduce criteria air pollutants and GHG emissions from the medium and heavy duty trucks:

- CARB's Mobile Source Strategy focuses on reducing emissions through the transition to zero and low emission vehicles and from medium-duty and heavy-duty trucks (CARB 2017b).
- CARB's Sustainable Freight Action Plan establishes a goal to improve freight efficiency by 25 percent by 2030, deploy over 100,000 freight vehicles and equipment capable of zero emission operation and maximize both zero and near-zero emission freight vehicles and equipment powered by renewable energy by 2030 (CARB 2017b).
- CARB's Emissions Reduction Plan for Ports and Goods Movement (Goods Movement Plan) in California focuses on reducing heavy-duty truck-related emissions focus on establishment of emissions

[18] Approximately 1 percent is from fuel used for TRUs and yard equipment.

standards for trucks, fleet turnover, truck retrofits, and restriction on truck idling (CARB 2006). While the focus of Goods Movement Plan is to reduce criteria air pollutant and air toxic emissions, the strategies to reduce these pollutants would also generally have a beneficial effect in reducing GHG emissions.

In addition, the US EPA, CARB, and SCAQMD are currently in the rule development processes for the follow strategies:

- **US EPA Cleaner Truck Initiative.** In response to a petition from SCQMD, the US EPA has committed to updating its truck engine standard to reduce NOx emissions.
- **CARB's Transport Refrigeration Unit Regulation.** Measure to reduce residual risk from TRUs by transitioning to zero-emission technologies.
- **CARB's Advanced Clean Truck Rule.** Requires truck manufacturers to sell an increasing percentage of zero-emission trucks by 2030 (up to 15 percent or 50 percent, depending on truck type). Also, this proposed rule would require one-time fleet reporting for large businesses.
- **CARB's Zero-Emission Fleet Rule.** Would require some fleets to transition to zero-emissions.
- **CARB's Heavy-Duty Low NOx Program.** Would set new statewide engine standards, test cycles, and warranty and durability requirements to reduce NOx from trucks.
- **CARB's Heavy-Duty Inspection/Maintenance Program.** Would set new inspection and maintenance requirements to ensure emissions controls are functioning properly.
- **SCAQMD's Warehouse Indirect Source Review (ISR).** SCAQMD's Warehouse Centers Distribution Working Group is currently looking into adopting an ISR rule for warehouse distribution centers 100,000 square feet and larger. If adopted, the Warehouse ISR would require warehouse projects to implement facility-based measures (SCAQMD 2019e).

Thus, these strategies would contribute in controlling heavy duty truck emissions associated with the proposed project. The proposed project would not conflict with these strategies. Trucks onsite are required to comply with CARB's Heavy-Duty (Tractor-Trailer) GHG Regulation, which requires SmartWay tractor trailers that include idle-reduction technologies, aerodynamic technologies, and low-rolling resistant tires that would reduce fuel consumption and associated emissions.

Summary

Despite the infrastructure improvements provided by project and the anticipated regulations implemented by the US EPA and CARB to improve truck efficiency, the project would represent a substantial increase in emissions compared to existing conditions. The estimated long-term emissions generated under full buildout of the proposed project would exceed the SCAQMD's regional operational significance thresholds (see Table 5.2-5) and would cumulatively contribute to the nonattainment designations in the SoCAB. Therefore, the

proposed project would be considered inconsistent with the AQMP, resulting in a significant impact in this regard.

Level of Significance Before Mitigation: Potentially significant impact.

Impact 5.2-8: Operation of land uses accommodated under the proposed project could result in other emissions that would adversely affect a substantial number of people. [Threshold AQ-4]

Impact Analysis: Nuisance odors from land uses in the SoCAB are regulated under SCAQMD 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.

Construction

During construction activities, construction equipment exhaust and application of asphalt and architectural coatings would temporarily generate odors. Any construction-related odor emissions would be temporary and intermittent. Additionally, noxious odors would be confined to the immediate vicinity of the construction equipment. By the time such emissions reached any sensitive receptor sites, they would be diluted to well below any level of air quality concern. Furthermore, short-term construction-related odors are expected to cease upon the drying or hardening of odor-producing materials. Therefore, impacts associated with construction-generated odors are considered less than significant.

Operation

The type of facilities that are considered to have objectionable odors include wastewater treatment 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. The types of businesses accommodated under the proposed project could result in these types of uses, such as food manufacturing and chemical manufacturing facilities. While these and other types of industrial land uses associated with the proposed project would be required to comply with SCAQMD Rule 402, additional measures may be necessary to prevent an odor nuisance. Therefore, industrial land uses associated with the proposed project may generate potentially significant odor impacts to a substantial number of people.

Level of Significance Before Mitigation: Potentially significant impact.

5.2.5 Cumulative Impacts

Regional

In accordance with SCAQMD'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. 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 from cumulative project emissions (i.e., the SoCAB), SCAQMD considers a project cumulatively significant when project-related emissions exceed the SCAQMD regional emissions thresholds shown in Table 5.2-5. No significant cumulative impacts were identified with regard to CO hotspots.

Construction

The SoCAB is designated nonattainment for O_3 and $PM_{2.5}$ under the California and National AAQS and nonattainment for PM_{10} and lead (Los Angeles County only) under the National AAQS. Ozone is created by chemical reactions between NO_X and volatile organic compounds; thus, NO_X and VOCs are precursor to O_3. Construction of cumulative projects will further degrade the regional and local air quality. The project would not make a cumulative considerable contribution to $PM_{2.5}$ or PM_{10}, but air quality from VOCs and NO_X would be temporarily impacted during construction activities. However, as discussed below, implementation of mitigation would reduce project-related construction VOC and NO_X emissions to below the SCAQMD regional significance thresholds on a project and cumulative basis. Therefore, the proposed project's contribution to cumulative air quality impacts would not be cumulatively considerable with incorporation of mitigation.

Operation

For operational air quality emissions, any project that does not exceed or can be mitigated to less than the daily regional threshold values is not considered by SCAQMD to be a substantial source of air pollution and does not add significantly to a cumulative impact. Operation of the project after incorporation of mitigation would still result in emissions in excess of the SCAQMD regional emissions thresholds for NO_X. Therefore, the air pollutant emissions associated with the proposed project would be cumulatively considerable and therefore significant.

Localized

Under SCAQMD guidance, projects that exceed the project-specific significance threshold of 10 in a million are considered to be cumulatively considerable (SCAQMD 2003). Per the MATES IV study, the proposed project is in an area that has an estimated cancer risk of about 821 in a million (SCAQMD 2015). Project-related construction activities would result a cancer risk of 9.4 in a million to the MER. Development and operation of the proposed project would result in adding an additional cancer risk of 6.2 in a million to the MER, which would be below 10 in a million. In addition, with incorporation of mitigation, cancer risk for the combined construction and operation scenario would be reduced to 7.7 in a million. As a result, the project would not cumulatively contribute to the overall elevated levels of DPM in the SoCAB. Therefore, the

project's contribution to health risk impacts in the SoCAB is less than significant with mitigation incorporated.

5.2.6 Level of Significance Before Mitigation

Upon implementation of regulatory requirements and standard conditions of approval, some impacts would be less than significant: 5.2-3, 5.2-4, and 5.2-5.

Without mitigation, these impacts would be **potentially significant**:

- **Impact 5.2-1:** Construction activities associated with the proposed project would generate short-term VOC and NO_X emissions in exceedance of SCAQMD's threshold criteria.
- **Impact 5.2-2:** Long-term operation of the project would generate emissions in exceedance of SCAQMD's threshold criteria and would cumulatively contribute to the nonattainment designations of the air basin.
- **Impact 5.2-6:** Overlap of construction activities and long-term operation of the land uses associated with buildout of the proposed project would expose sensitive receptors to substantial concentrations of toxic air contaminants.
- **Impact 5.2-7:** The proposed project would be inconsistent with the applicable air quality plan.
- **Impact 5.2-8:** Operation of land uses accommodated under the proposed project could result in other emissions that would adversely affect a substantial number of people.
- **Cumulative:** The project would cumulatively contribute to the overall elevated levels of DPM in the SoCAB.

5.2.7 Mitigation Measures

Impact 5.2-1

AQ-1 Construction contractors shall, at minimum, use equipment that meets the United States Environmental Protection Agency's (EPA) Tier 4 Interim emissions standards for off-road diesel-powered construction equipment with more than 50 horsepower for all Phase 1 rough grading and rough grading soil hauling activities, unless it can be demonstrated to the City of Ontario Building Department that such 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 Tier 4 Interim emissions standards for a similarly sized engine, as defined by the California Air Resources Board's regulations.

Prior to construction, the project engineer shall ensure that all construction (e.g., demolition and grading) plans clearly show the requirement for EPA Tier 4 Interim emissions standards for construction equipment over 50 horsepower for the specific activities stated above.

During construction, the construction contractor shall maintain a list of all operating equipment in use on the construction site for verification by the City of Ontario. The construction equipment list shall state the makes, models, Equipment Identification Numbers, and number of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to 5 minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.

AQ-2 During building construction, the construction contractor shall, at minimum, use paints with a volatile organic compound (VOC) content of 20 grams per liter or less for all interior and exterior coatings of the Phase 1 buildings (i.e., Buildings 1 through 3). This requirement shall be noted on all construction management plans verified by the City of Ontario prior to issuance of any construction permits and during interior coating activities.

AQ-3 During building construction, the construction contractor shall, at minimum, use paints with a volatile organic compound (VOC) content of 50 grams per liter or less for all interior and exterior coatings of the Phase 2 buildings (i.e., Buildings 4 through 8). This requirement shall be noted on all construction management plans verified by the City of Ontario prior to issuance of any construction permits and during interior coating activities.

AQ-4 During Phase 1 and Phase 2 construction, the construction contractor shall, at minimum, use paints with a volatile organic compound (VOC) content of 50 grams per liter or less for all surface parking lot striping. This requirement shall be noted on all construction management plans verified by the City of Ontario prior to issuance of any construction permits and during interior coating activities.

Impacts 5.2-2

Off-Road Equipment

AQ-5 Only electric-powered off-road equipment (e.g., yard trucks/hostlers) shall be utilized onsite for daily warehouse and business operations. The project developer/facility owner shall disclose this requirement to all tenants/business entities prior to the signing of any lease agreement. In addition, the limitation to use only electric-powered off-road equipment shall be included all leasing agreements.

Prior to issuance of a Business License for a new tenant/business entity, the project developer/facility owner and tenant/business entity shall provide to the City of Ontario Planning Department and Business License Department a signed document (verification document) noting that the project development/facility owner has disclosed to the tenant/business entity the requirement to use only electric-powered equipment for daily operations. This verification document shall be signed by authorized agents for the project developer/facility owner and tenant/business entities. In addition, if applicable, the

tenant/business entity shall provide documentation (e.g., purchase or rental agreement) to the City of Ontario Planning Department and Business License Department to verify, to the City's satisfaction, that any off-road equipment utilized will be electric-powered.

AQ-6 All truck/dock bays that serve cold storage facilities within the proposed buildings shall be electrified to facilitate plug-in capability and support use of electric standby and/or hybrid electric transport refrigeration units. All site and architectural plans submitted to the City of Ontario Planning Department shall note all the truck/dock bays designated for electrification. Prior to the issuance of a Certificate of Occupancy, the City of Ontario Building Department shall verify electrification of the designated truck/dock bays.

AQ-7 To reduce idling emissions from transport trucks, signage shall be placed at truck access gates, loading docks, and truck parking areas that identify applicable California Air Resources Board (CARB) anti-idling regulations (e.g., Rule 2485). At minimum, each sign shall include: 1) instructions for truck drivers to shut off engines when not in use; 2) instructions for drivers of diesel trucks to restrict non-essential idling to no more than two (2) consecutive minutes; and 3) telephone numbers of the building facilities manager and CARB to report violations. All signage shall be made of weather-proof materials. All site and architectural plans submitted to the City of Ontario Planning Department shall note the locations of these signs. Prior to issuance of the Certificate of Occupancy, the City of Ontario Building Department shall verify the installation of these signs.

Landscaping Equipment

AQ-8 All landscaping equipment (e.g., leaf blower) used for property management shall be electric-powered only. The property manager/facility owner shall provide documentation (e.g., purchase, rental, and/or services agreement) to the City of Ontario Planning Department to verify, to the City's satisfaction, that all landscaping equipment utilized will be electric-powered.

Architectural Coatings & Paints

AQ-9 All paints used for interior and exterior architectural re-coatings of all buildings shall at minimum, have a volatile organic compound (VOC) content of 25 grams per liter or less.

AQ-10 Paints used in re-striping of the parking lot shall, at minimum, have a volatile organic compound (VOC) content of 50 grams per liter or less.

Impact 5.2-6

Mitigation Measures AQ-5 through AQ-8 are applicable to Impact 5.2-6. Additionally, the following mitigation measure is also prescribed to reduce impacts associated with Impact 5.2-6.

AQ-11 Construction contractors shall, at minimum, use equipment that meets the United States Environmental Protection Agency's (EPA) Tier 4 Interim emissions standards for off-road

diesel-powered construction equipment with more than 50 horsepower for all Phase 2 building construction activities, unless it can be demonstrated to the City of Ontario Building Department that such 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 Tier 4 Interim emissions standards for a similarly sized engine, as defined by the California Air Resources Board's regulations.

Prior to construction, the project engineer shall ensure that all construction (e.g., demolition and grading) plans clearly show the requirement for EPA Tier 4 Interim emissions standards for construction equipment over 50 horsepower for the specific activity stated above. During construction, the construction contractor shall maintain a list of all operating equipment in use on the construction site for verification by the City of Ontario. The construction equipment list shall state the makes, models, Equipment Identification Numbers, and number of construction equipment onsite. Equipment shall be properly serviced and maintained in accordance with the manufacturer's recommendations. Construction contractors shall also ensure that all nonessential idling of construction equipment is restricted to 5 minutes or less in compliance with Section 2449 of the California Code of Regulations, Title 13, Article 4.8, Chapter 9.

Impact 5.2-7

Apply Mitigation Measures AQ-5 through AQ-10.

Impact 5.2-8

AQ-12 Prior to future discretionary approval, if it is determined that a project has the potential to emit nuisance odors beyond the property line, an odor management plan shall be prepared by the project applicant, subject to review and approval by the City of Ontario Planning Department. Facilities that have the potential to generate nuisance odors include but are not limited to:

- Wastewater treatment plants
- Composting, green waste, or recycling facilities
- Fiberglass manufacturing facilities
- Painting/coating operations
- Large-capacity coffee roasters
- Food-processing facilities

The odor management plan shall show compliance with the South Coast Air Quality Management District's Rule 402 for nuisance odors. The Odor Management Plan shall identify the best available control technologies for toxics (T-BACTs) that will be utilized to reduce potential odors to acceptable levels, including appropriate enforcement mechanisms. T-BACTs may include, but are not limited to scrubbers (i.e., air pollution control devices) at

the industrial facility. T-BACTs identified in the odor management plan shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.

5.2.8 Level of Significance After Mitigation

Impact 5.2-1

Implementation of Mitigation Measure AQ-1 would require off-road construction equipment of 50 horsepower or greater used for Phase 1 rough grading activities to be fitted with engines that meet the EPA's Tier 4 Interim emissions standards. In addition, implementation of Mitigation Measures AQ-2 through AQ-4 would require use of low VOC interior and exterior paints for the proposed buildings and for the surface parking lots. As shown in Table 5.2-18, incorporation of Mitigations Measures AQ-1 through AQ-4 would reduce project-related construction emissions of VOC and NO_X to below their respective significance thresholds. Therefore, Impact 5.2-1 would be reduced to less than significant. However, because NO_X emissions with mitigation measure would result in 99 pounds per day, which is close to the SCAQMD threshold of 100 pounds per day, this impact is conservatively considered ***significant and unavoidable***.

Table 5.2-18 Maximum Daily Regional Construction Emissions With Mitigation

	Pollutants (pounds per day)[1, 2]					
Construction Year	VOC	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 2020	9	79	67	<1	11	4
Year 2021	66	70	80	<1	13	5
Year 2022	57	99	56	<1	14	7
Maximum Daily Emissions	66	99	80	<1	14	7
SCAQMD Regional Construction Threshold	75	100	550	150	150	55
Significant?	No	No	No	No	No	No

Source: CalEEMod Version 2016.3.2
Notes: Emissions totals may not equal 100 percent due to rounding.
1 Based on the preliminary information provided. Where specific information regarding project-related construction activities was not available, construction assumptions were based on CalEEMod defaults, which are based on construction surveys conducted by SCAQMD of construction equipment.
2 Includes implementation of fugitive dust control measures required by SCAQMD under Rule 403 (PPP AIR-4), 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. Also incorporates Mitigation Measures AQ-1 through AQ-4.

Impact 5.2-2

Implementation of Mitigation Measure AQ-5 would limit off-road equipment used in daily operations to be electric-powered only. As shown in Table 5.2-19, implementation of Mitigation Measures AQ-2 through AQ-10 would reduce emissions to the extent possible. However, project-related operation phase emissions would still exceed the VOC and NO_X regional significance thresholds. Therefore, Impact 5.2-2 would remain ***significant and unavoidable***.

Table 5.2-19 Maximum Daily Regional Operational Phase Emissions With Mitigation

Sources	Criteria Air Pollutants (lbs/day)					
	VOC	NOx	CO	SO_2	PM_{10}	$PM_{2.5}$
Area[1]	40	<1	<1	<1	<1	<1
Energy	<1	3	3	<1	<1	<1
Mobile – Passenger Vehicles[2]	12	13	159	<1	45	12
Mobile – Transport Trucks[2]	5	105	31	1	31	10
Transport Refrigeration Units[4]	1	4	6	<1	<1	<1
Off-Road Equipment[3]	0	0	0	0	0	0
Maximum Daily Emissions	57	126	199	1	76	23
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold	Yes	Yes	No	No	No	No

Source: CalEEMod, Version 2016.3.2. Based on trip generation information provided by Urban Crossroads (Appendix L1).
Notes: Highest winter or summer. Emissions totals may not equal 100 percent due to rounding. **Bold** = Exceedance.
[1] Incorporates Mitigation Measures AQ-2 through AQ-4, AQ-9, and AQ-10, which require use of low VOC paints and Mitigation Measure AQ-8, which limits landscaping equipment to be electric-powered only.
[2] Based on calendar year 2022 aggregated emission rates derived from EMFAC2017 Version 1.0.2 and CalEEMod methodology.
[3] Incorporates Mitigation Measure AQ-5, which only allows use of electric-powered off-road equipment.

As stated, the attainment designation is based on compliance with the National and California AAQS, which are set at levels that are generally determined to provide an adequate level of safety in protecting the public health pursuant to the Clean Air Act and are applied at the regional level. Because the project would exceed the VOC and NO_X regional thresholds, it would result in a ***significant and unavoidable*** regional air quality impact and would cumulatively contribute to the nonattainment designations of the SoCAB.

However, per SCAQMD, exceedance of the regional significance thresholds cannot be used to correlate a project to quantifiable health impacts, unless emissions are sufficiently high to use a regional model (see Appendix C2). Because the AAQS is applied at the regional level, a regional scale air quality model is necessary to determine the concentrations of the criteria air pollutants in the SoCAB and whether they exceed the AAQS. In general, regional scale air quality modeling efforts are conducted by air districts as they are the agencies that oversee compliance of the air basins to the AAQS. Regional air quality models currently available to air districts typically attempts to accounts for all emissions sources within an air basin. Due to the nature of the available regional model, the purpose of the AAQS, the AAQS being based on concentrations instead of mass emissions, and the complexity in correlating concentration levels with the amount of mass emissions generated, a large change in emissions would be needed to provide observable and meaningful results. For example, as part of its preparation of the 2012 AQMP, SCAQMD showed that reducing NO_X by 431 tons per day (157,680 tons per year) and VOC by 187 tons per day (68,255 tons per year) would reduce ozone concentration levels by only 9 parts per billion (see Appendix C2). The maximum daily emission of 120 pounds per day of NO_X (0.06 tons per day or 22 tons per year) generated from project-related operational activities would exceed the regional significance threshold by 65 pounds per day. Thus, in the regional model, the changes in regional emissions generated by the proposed project are too small a resolution (size of the project site and emissions quantity) for the project to substantially affect the concentrations predicted in the SCAQMD's regional model. Therefore, while emissions are conservatively

assumed to cumulatively contribute to the nonattainment designation because they exceed the SCAQMD's regional significance threshold, it would be speculative to determine the health consequences from the incremental increase in emissions because the project is unlikely to be large enough (i.e., smaller than the smallest resolution of the regional model) to substantially affect the concentrations predicted in SCAQMD's regional model.

Impact 5.2-6

Implementation of Mitigation Measure AQ-11 would require off-road construction equipment of 50 horsepower or greater used for Phase 2 building construction activities to be fitted with engines that meet the EPA's Tier 4 Interim emissions standards. As shown in Table 5.2-20, implementation of Mitigation Measure AQ-11 in addition to Mitigation Measure AQ-1, which is prescribed to reduce project-related regional construction impacts, would reduce the total combined cancer risk to 7.6 in a million. In addition, while not accounted for in Table 5.2-20, Mitigation Measures AQ-5 through AQ-8 would provide further reductions in health risks through the use of cleaner and lower emitting off-road equipment. Therefore, with incorporation of mitigation, Impact 5.2-6 would be reduced to less than significant.

Table 5.2-20 Combined Construction and Operational HRA With Mitigation

Source	Cancer Risk – 30-year Residential (per million)	Chronic Hazard Index
Construction Emissions – 2-year duration[1]	4.1	0.013
Operational Emissions – 28-year duration	3.6	0.002
Cumulative Total[2]	7.6	0.015
SCAQMD Threshold	10	1.0
Exceeds Threshold?	No	No

Sources: Appendix C2.
Notes:
[1] Incorporates Mitigation Measures AQ-1 and AQ-11, which requires all equipment of 50 horsepower or more used for Phase 1 rough grading activities and Phase 2 building construction activities be fitted with engines that meet the EPA's Tier 4 Interim emissions standards.
[2] Totals are not rounded.

Impact 5.2-7

Compliance with PPP AIR-1 through PPP AIR-4 and incorporation of Mitigation Measures AQ-5 through AQ-10 would contribute in minimizing criteria air pollutant emissions from operation of the proposed project. However, as shown in Table 5.2-19, even with incorporation of mitigation, project-related operation-phase activities would still result in VOC and NO_X emissions exceeding the SCAQMD regional significance thresholds. Thus, the proposed project would continue to be inconsistent with the AQMP. Therefore, Impact 5.2-7 would remain ***significant and unavoidable***.

Impact 5.2-8

Mitigation Measure AQ-12 would ensure that odor impacts are minimized and facilities would comply with SCAQMD Rule 402. Therefore, Impact 5.2-8 would be reduced to less than significant.

5.2.9 References

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