

## 3.2 AIR QUALITY

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### INTRODUCTION

*This section describes the ambient air quality of the local and regional area and provides a comparison of existing air quality to applicable state and federal pollutant standards. In addition, sources of air emissions in the vicinity of the Project site are identified and discussed. This section also identifies the plans and policies developed in efforts to improve air quality. Finally, this section evaluates potential air quality impacts associated with construction and operation of the Proposed Project and identifies mitigation measures to reduce those potential impacts. Sources utilized in this discussion include the Ventura County Air Pollution Control District (VCAPCD) Air Quality Management Plan (AQMP)<sup>1</sup>, air quality data from the California Air Resources Board (CARB), and the Ventura County Air Quality Assessment Guidelines. Air emission calculations conducted for the Specific Plan are contained within **Appendix 3.2-A** of this environmental impact report (EIR).*

*This section also includes a Health Risk Assessment (HRA) which was conducted to predict the off-site concentration of pollutants resulting from project construction and operation, so that lifetime excess cancer risk and non-cancer health risk could be predicted. The HRA was conducted following methods in the Office of Environmental Health Hazard Assessment's (OEHHA) Guidance Manual for Preparation of Health Risk Assessments and CAPCOA's Air Toxics Hot Spots Program. The HRA and calculations conducted for the HRA are contained within **Appendix 3.2-B** and **3.2-C** of this environmental impact report (EIR).*

### 3.2.1 REGULATORY FRAMEWORK

Air quality within the South Central Coast Air Basin (SCCAB) is addressed through the efforts of various federal, state, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, regulations, planning, policy making, education, and other programs. The agencies primarily responsible for improving the air quality within the SCCAB (Ventura County Area) include the U.S. Environmental Protection Agency (U.S. EPA), CARB, Southern California Association of Governments (SCAG), VCAPCD, and the City of Moorpark.

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<sup>1</sup> 2016 Ventura County Air Quality Management Plan. Adopted by the Ventura County Air Pollution Control Board on February 14, 2017. Available online at: <http://www.vcapcd.org/pubs/Planning/AQMP/2016/Final/Final-2016-Ventura-County-AQMP.pdf>

### 3.2.1.1 Federal Regulations

#### *U.S. Environmental Protection Agency*

The U.S. EPA is responsible for enforcing the federal Clean Air Act (CAA) and the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for seven criteria pollutants: ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), respirable particulate matter (PM<sub>10</sub>), fine particulate matter (PM<sub>2.5</sub>), and lead (Pb). The prescribed levels are considered to be the maximum levels of ambient (background) air pollutants determined to be safe (with an adequate margin of safety) for the public health and welfare.

The 1990 CAA Amendments were enacted to better protect the public's health and create more efficient methods of lowering pollutant emissions. The major areas of improvement addressed in the amendments include air basin designations, automobile/heavy-duty engine emissions, and toxic air pollutants. The U.S. EPA designates air basins as being in attainment or nonattainment for each of the seven criteria pollutants. Nonattainment air basins are ranked (marginal, moderate, serious, severe, or extreme) according to the degree of nonattainment. An air basin in nonattainment is then required to submit a State Implementation Plan (SIP) that describes how the state will achieve federal standards by specified dates. The Ventura County portion of the SIP consists of the *Ventura County Air Quality Management Plan* (discussed later in this EIR section) and the *Ventura County Air Pollution Control District Rules and Regulations*. The extent of a given SIP depends on the severity of the air quality condition within the state or specific air basin. The status of the Ventura County portion of the SCCAB with respect to attainment with the NAAQS is summarized in **Table 3.2-1, National Ambient Air Quality Standards and Status – South Central Coast Air Basin (Ventura County)**.

**Table 3.2-1  
National Ambient Air Quality Standards and Status  
South Central Coast Air Basin (Ventura County)**

<b>Pollutant</b>	<b>Designation/Classification</b>
Ozone (O <sub>3</sub> )	Nonattainment (Serious)
Carbon Monoxide (CO)	Attainment/Unclassifiable
Nitrogen Dioxide (NO <sub>2</sub> )	Attainment/Unclassifiable
Sulfur Dioxide (SO <sub>2</sub> )	Attainment/Unclassifiable
Respirable Particulate Matter (PM <sub>10</sub> )	Attainment/Unclassifiable
Fine Particulate Matter (PM <sub>2.5</sub> )	Attainment/Unclassifiable
Lead (Pb)	Attainment

*Source: United States Environmental Protection Agency, "Current Nonattainment Counties for All Criteria Pollutants," <https://www3.epa.gov/airquality/greenbook/ancl.html>. 2019.*

In response to rapid population growth and the associated rise in motor vehicle operations, the 1990 CAA Amendments addressed tailpipe emissions from automobiles, heavy-duty engines, and diesel fuel engines. The amendments established more stringent standards for hydrocarbons, nitrogen oxides (NO<sub>x</sub>), and CO emissions in order to reduce the ozone and carbon monoxide levels in heavily populated areas. Under the 1990 Amendments, new fuels were required to be less volatile, contain less sulfur (particular to diesel fuels), and have higher levels of oxygenates (oxygen-containing substances to improve fuel combustion). The U.S. EPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and sources that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. Due to the lack of a substantial reduction in toxic emissions under the 1977 CAA, the 1990 CAA Amendments listed 189 hazardous air pollutants (HAPs), which are carcinogenic, mutagenic, and/or reproductive toxicants, to be reduced. This program (the 1990 CAA Amendments) involves locating all major (greater than 10 tons/year) and area emission sources and implementing Maximum Achievable Control Technology (MACT) to reduce HAP emissions and their associated health impacts.

### **3.2.1.2 State Regulations**

#### ***California Air Resources Board***

The California Air Resources Board (CARB), a branch of the California Environmental Protection Agency (Cal/EPA), oversees air quality planning and control throughout California. It is primarily responsible for ensuring the implementation of the California Clean Air Act (CCAA), responding to federal CAA

requirements, and regulating emissions from motor vehicles and consumer products within the state. In addition, CARB also sets health-based air quality standards and control measures for toxic air contaminants (TACs). However, CARB's research primarily focuses on automobile emissions, as they are the largest contributor to air pollution in California. Under the 2013 Clean Air Act Waiver, CARB established new standards for vehicles sold in California and for various types of equipment available commercially. It also sets fuel specifications to further reduce vehicular emissions.

The CCAA established a legal mandate for air basins to achieve the California ambient air quality standards by the earliest practicable date. These standards apply to the same seven criteria pollutants as the federal CAA and also include sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. State standards are more stringent than the federal standards, and in the case of PM<sub>10</sub> and SO<sub>2</sub>, far more stringent.

CARB supervises and supports the regulatory activities of local air quality districts and monitors ambient air quality itself. *Health and Safety Code* Section 39607(e) requires CARB to establish and periodically review area designation criteria. These designation criteria provide the basis for CARB to designate areas of the state as "attainment," "nonattainment," or "unclassified" according to state standards. In addition, *Health and Safety Code* Section 39608 requires CARB to use the designation criteria to classify areas of California and to annually review those area designations.

#### ***Air Pollutants of Concern***

Criteria air pollutants are defined as pollutants for which the federal and state governments have established ambient air quality standards for outdoor concentrations. The federal and state standards have been set at levels above which concentrations could be harmful to human health and welfare. These standards are designed to protect the most sensitive persons such as children, pregnant women, and the elderly, from illness or discomfort. Criteria air pollutants include ozone (O<sub>3</sub>), nitrogen dioxide (NO<sub>2</sub>), carbon monoxide (CO), sulfur dioxide (SO<sub>2</sub>), particulate matter 2.5 microns or less in diameter (PM<sub>2.5</sub>), particulate matter ten microns or less in diameter (PM<sub>10</sub>), and lead (Pb). Note that reactive organic gases (ROGs), which are also known as reactive organic compounds (ROCs) or volatile organic compounds (VOCs), and nitrogen oxide (NO<sub>x</sub>) are not classified as criteria pollutants. However, ROGs and NO<sub>x</sub> are widely emitted from land development projects and participate in photochemical reactions in the atmosphere to form O<sub>3</sub>; therefore, NO<sub>x</sub> and ROGs are relevant to the Proposed Project and are of concern in the air basin and are listed below along with the criteria pollutants. Sources and health effects commonly associated with criteria pollutants are summarized in **Table 3.2-2, Criteria Pollutants Summary of Common Sources and Effects**.

**Table 3.2-2  
Criteria Pollutants Summary of Common Sources and Effects**

<b>Pollutant</b>	<b>Major Man-Made Sources</b>	<b>Human Health &amp; Welfare Effects</b>
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuels is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO <sub>2</sub> )	A reddish-brown gas formed during fuel combustion for motor vehicles and industrial sources. Sources include moto vehicles, electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O <sub>3</sub> )	Formed by a chemical reaction between volatile organic compounds (VOC) and nitrous oxides (NO <sub>x</sub> ) in the presence of sunlight. VOCs are also commonly referred to as reactive organic gases (ROGs). Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints, and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing, and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles, and dyes.
Particulate Matter (PM <sub>10</sub> & PM <sub>2.5</sub> )	Produced by power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles, and others.	Increased respiratory symptoms, such as irritation of the airways, coughing or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO <sub>2</sub> )	A colorless, nonflammable gas formed when fuel containing sulfur is burned; when gasoline is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant; aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron, and steel. Damages crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead (Pb)	Lead is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been motor vehicles (such as cars and trucks) and industrial sources. Due to the phase out of leaded gasoline, metals processing is the major source of lead emissions to the air today. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.	Lead particularly affects young children and infants. It is still found at high levels in urban and industrial areas, and deposits on soil and water and harms animals and fish. Although overall blood lead levels have decreased since 1976, infants and young children still have the highest blood lead levels. Children and others can be exposed to lead not only through the air, but also through accidentally or intentionally eating soil or paint chips, as well as food or water contaminated with lead.

Source: CAPCOA, Health Effects. Available: <http://www.capcoa.org/health-effects/>

The status of the SCCAB with respect to attainment under the CAAQS is summarized in **Table 3.2-3, California Ambient Air Quality Standards and Status – South Central Coast Air Basin (Ventura County)**.

**Table 3.2-3  
California Ambient Air Quality Standards and Status  
South Central Coast Air Basin (Ventura County)**

<b>Pollutant</b>	<b>Designation/Classification</b>
Ozone (O <sub>3</sub> )	Nonattainment
Carbon Monoxide (CO)	Attainment
Nitrogen Dioxide (NO <sub>2</sub> )	Attainment
Sulfur Dioxide (SO <sub>2</sub> )	Attainment
Respirable Particulate Matter (PM <sub>10</sub> )	Nonattainment
Fine Particulate Matter (PM <sub>2.5</sub> )	Attainment
Lead (Pb) <sup>1</sup>	Attainment
Sulfates (SO <sub>4</sub> )	Attainment
Hydrogen Sulfide (H <sub>2</sub> S)	Unclassified
Vinyl Chloride <sup>1</sup>	Unclassified
Visibility-reducing Particles	Unclassified

Source: California Air Resources Board, "Area Designations Map/State and National," <http://www.arb.ca.gov/design/adm/adm.htm>. 2018.

<sup>2</sup> CARB has identified lead and vinyl chloride as "toxic air contaminants" with no threshold level of exposure for adverse health effects determined.

### 3.2.1.3 Local Regulations

Local governments, such as the City of Moorpark, have the authority and responsibility to reduce air pollution through their police power and land use decision-making authority. Specifically, local governments are responsible for the mitigation of emissions resulting from land use decisions and for the implementation of transportation control measures as outlined in the Air Quality Management Plan (AQMP). The AQMP assigns local governments certain responsibilities to assist the VCAPCD in meeting air quality goals and policies. In general, a first step toward implementation of a local government's responsibility is accomplished by identifying air quality goals, policies, and implementation measures in its general plan. Through capital improvement programs, local governments can fund infrastructure that contributes to improved air quality by requiring such improvements as bus turnouts, energy-efficient streetlights, and synchronized traffic signals. In accordance with California Environmental Quality Act (CEQA) requirements and the CEQA review process, local governments assess air quality impacts, require mitigation of potential air quality impacts by conditioning discretionary permits, and monitor and enforce implementation of such mitigation.

### *Ventura County Air Pollution Control District*

The management of air quality in Ventura County is the responsibility of the VCAPCD. The VCAPCD is responsible for bringing air quality in the County into conformity with federal and state air quality standards. Specifically, the VCAPCD has the responsibility to monitor ambient air pollutant levels throughout the County and to develop and implement attainment strategies to ensure that future emissions will be within federal and state standards. These attainment strategies form the basis for the AQMP, which is continuously updated to reflect changes in control strategies mandated by updates of the federal and state CAAs.

To implement these strategies, the VCAPCD Board has adopted specific rules and regulations to limit emissions from stationary and mobile sources and activities within the County. These rules and regulations identify specific pollution-reduction measures, which must be implemented in association with various uses and activities. These rules not only regulate the emissions of criteria pollutants, but also emissions of TACs and HAPs. The rules and regulations are subject to ongoing refinement by the VCAPCD. Enforcement of these rules and regulations is carried out through a permitting process that monitors emissions generated by stationary sources, such as power plants, manufacturing operations, and large and small businesses, that use products that release ozone-forming precursors or TACs into the atmosphere. The Proposed Project would be subject to the VCAPCD rules and regulations to reduce project-related emissions and minimize potential air quality impacts.

In addition to permitting stationary sources, the VCAPCD Air Quality Planning and Evaluation Section administers the CEQA program for Ventura County, which is used to review and comment on the adequacy of environmental documents such as this EIR. It recommends thresholds for determining whether projects would have significant adverse environmental impacts, identifies methodologies for predicting project emissions and impacts, and identifies measures that can be used to avoid or reduce air quality impacts. The *Ventura County Air Quality Assessment Guidelines*, adopted in October 2003, is the most up-to-date document that local government agencies and consultants use to prepare environmental documents for projects subject to CEQA.<sup>2</sup> This document describes the criteria and methods required to mitigate construction and operational emissions from planned developments to ensure compliance with the VCAPCD AQMP.

VCAPCD is responsible for limiting the amount of emissions that can be generated throughout Ventura County by various stationary and area sources. Specific rules and regulations have been adopted by the

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<sup>2</sup> Ventura County Air Quality Assessment Guidelines. Adopted in October 2003. Available online at: <http://www.vcapcd.org/pubs/Planning/VCAOGuidelines.pdf>.

VCAPCD that limit the allowed amount of emissions generated by various uses and activities, and that identify specific pollution-reduction measures that must be implemented for various uses and activities.<sup>3</sup>

Stationary emission sources subject to these rules are generally regulated through VCAPCD's permitting process. Some activities associated with the project may be subject to VCAPCD rules and regulations. With regard to project development, the following rules may apply:

- **Rule 50 (Opacity)** – This rule sets opacity standards on the discharge from sources of air contaminants. This rule would apply during construction of the proposed project, specifically grading activities.
- **Rule 51 (Nuisance)** – This rule prohibits any person from discharging air contaminants or any other material from a source that would cause injury, detriment, nuisance, or annoyance to a considerable number of persons or the public, or which endangers the comfort, health, safety, or repose of a considerable number of persons or the public.
- **Rule 55 (Fugitive Dust)** – This rule sets restrictions on activities, including grading, demolition, and construction that could potentially cause visible dust emissions.
- **Rule 57.1 (Particulate Matter from Fuel Burning Equipment)** – This rule sets restrictions on the particulate matter emissions from fuel input for boilers, steamers, process heaters, water heaters, space heaters, flares and gas turbines.
- **Rule 68 (Carbon Monoxide)** – This rule sets a limit on the concentration of carbon monoxide (CO) that can be emitted.
- **Rule 74.2 (Architectural Coatings)** – This rule sets limits on the volatile organic compound (VOC) content of architectural coatings manufactured, blended, sold, or offered for sale within VCAPCD's jurisdiction. The rule also sets container-labeling requirements for businesses or individuals manufacturing or supplying architectural coatings. Architectural coating products used for the proposed project are required to comply with the standards set forth in this rule.
- **Rule 74.4 (Cutback Asphalt)** – This rule sets limits on the type of application and ROC content of cutback and emulsified asphalt. The proposed project is required to comply with the type of application and ROC content standards set forth in this rule for cutback and emulsified asphalt.

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<sup>3</sup> *Ventura County Air Pollution Control District, Rules and Regulations.*

- **Rule 74.9 (Stationary Internal Combustion Engines)** – This rule sets limits on NO<sub>x</sub>, ROC, and CO emissions on stationary spark-ignited or diesel internal combustion engine rated at 50 or more horsepower, operated on any gaseous fuel, including liquid petroleum gas (LPG), or liquid fuel.
- **Rule 74.11 (Natural Gas-Fired Residential Water Heaters – Control of NO<sub>x</sub>)** – This rule sets a NO<sub>x</sub> emission limit (40 nanograms of NO<sub>x</sub> per joule of heat output) for natural gas-fired residential water heaters. Residential water heaters must also comply with certification and compliance report requirements specified in this rule. Residential water heaters that do not comply with these standards are not to be sold, offered for sale, or installed within Ventura County.

### **Ventura County Air Quality Management Plan**

As discussed previously, the federal and state CAAs require preparation of plans to reduce air pollution to acceptable levels. The VCAPCD has responded to this requirement by preparing a series of Air Quality Management Plans (AQMPs), the most recent of which is the 2016 AQMD and was adopted by the VCAPCD Control Board on February 14, 2017. The 2016 AQMP is designed to comply with the provisions of the 1990 amendments to the federal CAA and the 1988 CCAA, accommodate growth, reduce the levels of pollutants within the County, and identify a control strategy to reduce ozone-forming emissions from mobile and stationary sources. Based upon the emission control strategies proposed in the 2016 AQMP, it was predicted that Ventura County would attain the federal 8-hour ozone standard by the year 2020.

The primary objective of the 2016 AQMP is to provide continuous air pollutant emission reductions over time, with the goal of attaining the federal and state standards for ozone. Ventura County has been designated a moderate nonattainment area for the 8-hour ozone standard. On February 14, 2007, the VCAPCD and CARB requested that the County be redesignated a “serious” nonattainment area in order to receive a new attainment date of June 15, 2013. Although serious nonattainment areas are required to implement more stringent control measures than a moderate nonattainment area, the 2016 AQMP has been prepared to satisfy the CAA planning requirements for serious federal 8-hour nonattainment areas. Control programs to achieve the federal 8-hour ozone standard described in the 2016 AQMP focus on mobile sources, consumer products, and pesticides.

### ***Southern California Association of Governments***

The Southern California Association of Governments (SCAG) is a council of governments for the six Counties of Imperial, Los Angeles, Orange, Riverside, San Bernardino, and Ventura. As a regional planning agency, SCAG serves as a forum for regional issues relating to transportation, the economy, community development, and the environment. SCAG also serves as the regional clearinghouse for projects requiring

environmental documentation under federal and state law. In this role, SCAG reviews projects to analyze their impacts on SCAG's regional planning efforts.

Although SCAG is not an air quality management agency, it is responsible for several air quality planning issues. Specifically, as the designated Metropolitan Planning Organization (MPO) for the Southern California region, it is responsible for providing current population, employment, travel, and congestion projections for regional air quality planning efforts and for determining conformity with the applicable air quality management plan, pursuant to Section 176(c) of the 1990 CAA Amendments. It is required to quantify and document the demographic and employment factors influencing expected transportation demand, including land use forecasts. Pursuant to *California Health and Safety Code* Section 40460 (b), SCAG is also responsible for preparing and approving portions of the basin's air quality management plans relating to demographic projections, and integrated regional land use, housing, employment, and transportation programs, measures, and strategies. Though the most recent population, housing, and transportation measures and strategies are contained in the *Connect SoCal Plan* the current air quality management plan was based on the SCAG growth forecasting.

### ***City of Moorpark General Plan***

The following air quality goals and policies of the *City of Moorpark General Plan* are applicable to the proposed Hitch Ranch Specific Plan project.

#### **Land Use Element**

**Goal 15:** Maintain a high quality environment that contributes to and enhances the quality of life and protects public health, safety, and welfare.

**Policy 15.4:** Development which will not result in a negative impact on air quality shall be encouraged in order to maintain and enhance air quality for the health and well-being of City residences.

#### **Circulation Element**

**Goal 7:** Develop and encourage a transportation demand management system to assist in mitigating traffic impacts and in maintaining a desired level of service on the circulation system.

**Policy 7.1:** To reduce energy consumption, noise pollution and air pollution, employment generating developments shall provide incentives to

employees to utilize alternatives to the conventional automobile, such as walking, bicycles, carpools, vanpools, buses, and commuter rail.

**Policy 7.7:** The City shall develop a program for expending transportation demand management funds collected as mitigation for air quality impacts.

### **Open Space, Conservation & Recreation Element**

**Goal 4:** Preserve and maintain the physical and biological environment from future growth-related degradation. In those areas where degradation is inevitable, ensure the restoration of affected areas.

**Policy 4.1:** Cooperate and participate in regional air quality management plans, programs, enforcement measures, and mitigation measures designed to reduce and/or minimize the amount of primary and secondary air pollutants.

## **3.2.2 EXISTING CONDITIONS**

### **3.2.2.1 Climate and Meteorology**

Southern California lies in a semi-permanent high-pressure zone of the Eastern Pacific region. The Mediterranean-type climate of Ventura County, as with all of Southern California, is regulated by the strength and location of the semi-permanent high-pressure center over the Pacific Ocean and the moderating effect of the nearby oceanic heat reservoir. Local climate conditions are characterized by dry, warm summers; mild, wet winters; infrequent rainfall; moderate daytime onshore breezes; and relatively low humidity. Summertime weather is dominated by the movement and intensity of the semi-permanent high-pressure system that is normally centered several hundred miles southwest of California. In the spring, summer, and fall, the climate is heavily influenced by marine air. Light winds in the region allow marine air to regulate temperatures and airflow during these periods. In the winter, low-pressure weather systems originating in the northern Pacific Ocean bring clouds, wind, and rain into Southern California. Santa Ana winds, caused by high pressure in the high plateau region northeast of California, occur intermittently during winter and fall.

The Southern California area has been divided into several geographical air basins. The County of Ventura is located within the South Central Coast Air Basin (SCCAB), which comprises Ventura, Santa Barbara, and San Luis Obispo Counties. The City of Moorpark experiences the mild, Mediterranean climate typical of Southern California. Average high temperatures in the Moorpark area range from 69 to 83 degrees

Fahrenheit and average low temperatures range from 41 to 57 degrees Fahrenheit. Precipitation averages 17.5 inches per year, with the majority of rainfall occurring from November through March.<sup>4</sup> Prevailing winds along the Ventura coast and City of Moorpark blow westerly and northwesterly. During the fall, Santa Ana winds reverse the prevailing airflow and bring dry, hot gusts that often have greater air movement.

There are four main meteorological conditions that affect air quality in the valley: a regional, semi-permanent high-pressure system; wind currents created or affected by local topography; Santa Ana winds; and seasonal storms. The dispersion of air pollutants in the Oxnard Plain Airshed, in which the City of Moorpark is located, is often restricted by frequent temperature inversions created by the semi-permanent high-pressure system. The temperature inversion is normally just below the summit areas of the surrounding mountains, which tend to trap air pollutants in a limited, near-surface atmospheric volume. From April through October, an onshore flow dominates the local wind patterns during daytime hours. This sea breeze flow is caused by surface heating from the sun. As the sun drops toward the horizon in the late afternoon, surface cooling precipitates a flow reversal or land breeze that lasts until just after sunrise. The combination of low wind speeds and strong inversion layers during this period results in high concentrations of pollutants near the ground. With the migration of the semi-permanent high-pressure system northward from October through March, frontal systems are allowed to move through the area bringing unstable conditions, and higher-speed, northeasterly winds dilute and disperse pollutants that accumulate in coastal areas and inland valleys, resulting in pollutant concentration reductions within the airshed. These storms account for much of the rainfall that Southern California receives annually and the periods of lower air pollutant concentrations.

#### 3.2.2.2 Regional Setting

##### *Regional Ambient Air Quality*

Air emissions are generated by a variety of sources in the Ventura County. Motor vehicles traveling along local roadways are a major source. Agricultural activities such as diesel- and gasoline-powered equipment (e.g., tractors, trucks) and pesticide spraying also emit air pollutants. Commercial and residential land uses in proximity to the site also emit air pollutants in the form of household products and cleaners.

The determination of whether a region's air quality is healthful or unhealthful is made by comparing contaminant levels in ambient air samples to national and state standards. California and the federal government have established health-based air quality standards for the following criteria air pollutants: O<sub>3</sub>, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and Pb. These standards were established to protect sensitive receptors

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<sup>4</sup> Weather.com, "Average Weather for Moorpark," <https://weather.com/weather/monthly/l/USCA0728:1:US>. 2018.

with a margin of safety from adverse health impacts due to exposure to air pollution. The California standards are more stringent than the federal standards, and in the case of PM10 and SO<sub>2</sub>, much more stringent. California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. The state and national ambient air quality standards for each of the monitored pollutants and their effects on health are summarized in **Table 3.2-4, Ambient Air Quality Standards**.

**Table 3.2-4  
Ambient Air Quality Standards**

Air Pollutant	Averaging Time	California Standards	National Standards <sup>1</sup>		Health and Other Effects
			Primary <sup>2,3</sup>	Secondary <sup>2,4</sup>	
Ozone (O <sub>3</sub> )	8-hour	0.070 ppm (137 µg/m <sup>3</sup> )	0.070 ppm (137 µg/m <sup>3</sup> )	Same as primary	(a) Pulmonary function decrements and localized lung edema in humans and animals; (b) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (c) Increased mortality risk; (d) Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (e) Vegetation damage; and (f) Property damage
	1-hour	0.09 ppm (180 µg/m <sup>3</sup> )	-- <sup>5</sup>	--	
Carbon Monoxide (CO)	8-hour	9 ppm (10 mg/m <sup>3</sup> )	9 ppm (10 mg/m <sup>3</sup> )	--	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; and (d) Possible increased risk to fetuses
	1-hour	20 ppm (23 mg/m <sup>3</sup> )	35 ppm (40 mg/m <sup>3</sup> )	--	
Nitrogen Dioxide (NO <sub>2</sub> )	Annual	0.030 ppm (57 µg/m <sup>3</sup> )	0.053 ppm (100 µg/m <sup>3</sup> )	Same as primary	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; and (c) Contribution to atmospheric discoloration
	1-hour	0.18 ppm (339 µg/m <sup>3</sup> )	0.100 ppm <sup>6</sup> (188 µg/m <sup>3</sup> )	--	
Sulfur Dioxide (SO <sub>2</sub> )	Annual	--	0.030 ppm (80 µg/m <sup>3</sup> ) <sup>7</sup>	-	Bronchoconstriction accompanied by symptoms, which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma
	24-hour	0.04 ppm (105 µg/m <sup>3</sup> )	0.14 ppm (365 µg/m <sup>3</sup> ) <sup>7</sup>	-	
	3-hour	-	-	0.5 ppm (1,300 µg/m <sup>3</sup> )	
	1-hour	0.25 ppm (655 µg/m <sup>3</sup> )	0.075 ppm <sup>7</sup> (196 µg/m <sup>3</sup> )	--	

Air Pollutant	Averaging Time	California Standards	National Standards <sup>1</sup>		Health and Other Effects
			Primary <sup>2,3</sup>	Secondary <sup>2,4</sup>	
Respirable Particulate Matter (PM10)	Annual	20 µg/m <sup>3</sup>	--	--	a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
	24-hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	Same as primary	
Fine Particulate Matter (PM2.5)	24-hour	No separate state standard	35 µg/m <sup>3</sup>	--	(a) Exacerbation of symptoms in sensitive patients with respiratory or cardiovascular disease; (b) Declines in pulmonary function growth in children; and (c) Increased risk of premature death from heart or lung diseases in the elderly
	Annual	12 µg/m <sup>3</sup>	12 µg/m <sup>3</sup>	--	
Lead	Calendar Quarter	--	1.5 µg/m <sup>3</sup>	Same as primary	(a) Increased body burden; and (b) Impairment of blood formation and nerve conduction
	30-day Average	1.5 µg/m <sup>3</sup>	--	--	

Source: CARB, Ambient Air Quality Standards, accessed July 6, 2021 (<https://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm>)

ppm = parts per million by volume; µg/m<sup>3</sup> = microgram per cubic meter; mg/m<sup>3</sup> = milligrams per cubic meter.

<sup>1</sup> Standards, other than for ozone and those based on annual averages, are not to be exceeded more than once a year. The ozone standard is attained when the expected number of days per calendar year with maximum hourly average concentrations above the standard is equal to or less than one.

<sup>2</sup> Concentrations are expressed first in units in which they were promulgated. Equivalent units given in parenthesis.

<sup>3</sup> Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health. Each state must attain the primary standards no later than three years after that state's implementation plan is approved by the U.S. Environmental Protection Agency (US EPA).

<sup>4</sup> Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

<sup>5</sup> The national 1-hour ozone standard was revoked by US EPA on June 15, 2005. A new 8-hour standard was established in May 2008.

<sup>6</sup> The form of the 1-hour NO<sub>2</sub> standard is the 3-year average of the 98th percentile of the daily maximum 1-hour average concentration.

<sup>7</sup> On June 2, 2010 the US EPA established a new 1-hour SO<sub>2</sub> standard, effective August 23, 2010, which is based on the 3-year average of the annual 99<sup>th</sup> percentile of the 1-hour daily maximum. The US EPA also revoked both the existing 24-hour and annual average SO<sub>2</sub> standards.

Air quality of a region is considered to be in attainment of state standards if the measured ambient air pollutant levels for O<sub>3</sub>, CO, SO<sub>2</sub> (1-hour and 24-hour), NO<sub>2</sub>, PM10, PM2.5 and visibility-reducing particles do not exceed the standards, and all other standards are not equaled or exceeded at any time in any consecutive three-year period.

### 3.2.2.3 Local Ambient Setting

#### Local Ambient Air Quality

To identify ambient concentrations of the criteria pollutants, the VCAPCD operates air quality monitoring stations throughout Ventura County. These stations are located in El Rio, Ojai, Piru, San Nicolas Island,

Simi Valley, Thousand Oaks, and Ventura. The monitoring stations located closest to the Proposed Project site and most representative of air quality within the Hitch Ranch Specific Plan area are the Simi Valley–Cochran Street and Thousand Oaks–Moorpark Road stations. Both stations monitor O<sub>3</sub> and PM<sub>2.5</sub> while the Simi Valley monitoring station also monitors NO<sub>2</sub> and PM<sub>10</sub>. CO monitoring was eliminated in Ventura County in 2004 as part of network changes in response to the proposed National Monitoring Strategy set forth by the U.S. EPA. The decision to eliminate CO monitoring was approved by both the U.S. EPA and CARB. Ventura County has met the CO standard for some time now. In addition, SO<sub>2</sub> monitoring in Ventura County was eliminated in 2004 and ambient concentrations for lead and sulfate are well below the state standards.<sup>5</sup>

A summary of the monitored values for O<sub>3</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> at the Simi Valley monitoring station for the past three years is presented in **Table 3.2-5, Simi Valley-Cochran Street Air Monitoring Station Ambient Pollutant Concentrations**. The values show that the Simi Valley monitoring station has registered values above state and/or federal standards for O<sub>3</sub>, and PM<sub>10</sub>.

A summary of the monitored values for O<sub>3</sub> and PM<sub>2.5</sub> at the Thousand Oaks monitoring station for the past three years is presented in **Table 3.2-6, Thousand Oaks-Moorpark Road Air Monitoring Station Ambient Pollutant Concentrations**. The values show that the Thousand Oaks monitoring station has registered values above state and federal standards for O<sub>3</sub>.

### *Local Vicinity Emissions*

The immediate vicinity of the Hitch Ranch Specific Plan Site, located north of main rail line that parallels Poindexter Avenue and west of the Walnut Canyon Elementary School, is characterized by residential development, light industry, and open spaces that are no longer under cultivation. Point sources include fast food restaurant charbroilers and a gas station located to the southeast of the site, while residential water and space heaters comprise the majority of the area source pollutants in the areas surrounding the site from west to northeast. Motor vehicles are the primary source of pollutants in the region. There are no large stationary sources that would impact the residents of the Proposed Project in the vicinity of the Project site.

Traffic-congested roadways and intersections have the potential for the generation of high localized CO levels in the proximity of a roadway (i.e., CO hotspots). Intersections classified as Level of Service (LOS) E or F are considered to be traffic-congested.<sup>6</sup> Based on the transportation impact analysis prepared for the Proposed Project (see **Appendix 3.15**), the Moorpark and Tierra Rejada Road intersection currently

<sup>5</sup> Ventura County Air Pollution Control District, *Final 2009 Ambient Air Monitoring Network Plan*, (2009) 13.

<sup>6</sup> Ventura County Air Pollution Control District, *Ventura County Air Quality Assessment Guidelines*, Section 6.4.1, (2003).

operates at LOS E during the AM peak hour. No intersections currently operate at LOS E or F during the PM peak hour. Therefore, one intersection of the studied roadway intersections has the potential to be a CO hotspot that could result in impacts on sensitive receptors during the AM peak hour under existing conditions (see **Appendix 3.15**). Under future (2026) conditions with ambient traffic growth, the Walnut Street and Championship Drive, Walnut Street and Spring Road intersection, the Spring Road and High Street intersection, the Grimes Canyon Road and Los Angeles Avenue intersection, the Somis Road and Los Angeles Avenue intersection, the Moorpark Road and Tierra Rejada Road intersection, the SR 23 northbound and southbound ramps intersections with Tierra Rejada Road, and the Moorpark Road and Santa Rosa Road intersection are forecasted to operate at LOS E or F during the AM and/or PM peak hours. Therefore, there are nine intersections of the studied roadway intersections with the potential to be CO hotspots that could result in impacts on sensitive receptors during the AM and/or PM peak hours under future (2026) conditions (see **Appendix 3.15**). The impact on localized CO hotspots due to ambient traffic growth plus the Proposed Project traffic in the year 2026 is analyzed under Impact AQ-2.

**Table 3.2-5  
Simi Valley-Cochran Street Air Monitoring Station Ambient Pollutant Concentrations**

Pollutant	Standards <sup>1</sup>	Year		
		2016	2017	2018
<b>OZONE (O<sub>3</sub>)</b>				
Maximum 1-hour concentration monitored (ppm)		0.101	0.103	0.101
Maximum 8-hour concentration monitored (ppm)		0.083	0.094	0.092
Number of days exceeding state 1-hour standard	0.09 ppm	1	3	2
Number of days exceeding federal/state 8-hour standard	0.070 ppm	7	20	14
<b>NITROGEN DIOXIDE (NO<sub>2</sub>)</b>				
Maximum 1-hour concentration monitored (ppm)		0.039	0.046	0.043
Annual average concentration monitored (ppm)		0.008	0.008	0.008
Number of days exceeding state 1-hour standard	0.18 ppm	0	0	0
<b>RESPIRABLE PARTICULATE MATTER (PM<sub>10</sub>)</b>				
Maximum 24-hour concentration monitored (µg/m <sup>3</sup> )		156.3	149.8	107.6
Annual average concentration monitored (µg/m <sup>3</sup> )		22.9	24.0	23.5
Number of samples exceeding state standard	50 µg/m <sup>3</sup>	4	9	6.1
Number of samples exceeding federal standard	150 µg/m <sup>3</sup>	1	0	0
<b>FINE PARTICULATE MATTER (PM<sub>2.5</sub>)</b>				
Maximum 24-hour concentration monitored (µg/m <sup>3</sup> )		34.9	31.3	29.6
Annual average concentration monitored (µg/m <sup>3</sup> )		8.7	9.2	8.7
Number of samples exceeding federal standard	35 µg/m <sup>3</sup>	0	0	0

Source: California Air Resources Board, "Air Quality Data Statistics," <http://www.arb.ca.gov/adam/>. 2019.

NA = not available

<sup>1</sup> Parts by volume per million of air (ppm), micrograms per cubic meter of air (µg/m<sup>3</sup>), or annual arithmetic mean (aam).

Pollutant	Standards <sup>1</sup>	Year		
		2016	2017	2018

<sup>2</sup> The 8-hour federal O<sub>3</sub> standard was revised from 0.075 ppm to 0.070 ppm in 2015. The statistics shown are based on the 2015 standard of 0.070 ppm.

**Table 3.2-6  
Thousand Oaks-Moorpark Road Air Monitoring Station Ambient Pollutant Concentrations**

Pollutant	Standards <sup>1</sup>	Year		
		2016	2017	2018
<b>OZONE (O<sub>3</sub>)</b>				
Maximum 1-hour concentration monitored (ppm)		0.080	0.090	0.080
Maximum 8-hour concentration monitored (ppm)		0.076	0.073	0.073
Number of days exceeding state 1-hour standard	0.09 ppm	0	0	0
Number of days exceeding federal/state 8-hour standard	0.070 ppm	1	6	1
<b>FINE PARTICULATE MATTER (PM<sub>2.5</sub>)</b>				
Maximum 24-hour concentration monitored (µg/m <sup>3</sup> )		35.2	32.0	41.5
Annual average concentration monitored (µg/m <sup>3</sup> )		9.6	8.9	9.2
Number of samples exceeding federal standard	35 µg/m <sup>3</sup>	0	0	1

Source: California Air Resources Board, "Air Quality Data Statistics," <http://www.arb.ca.gov/adam/>. 2019.

NA = not available

<sup>1</sup> Parts by volume per million of air (ppm), micrograms per cubic meter of air (µg/m<sup>3</sup>), or annual arithmetic mean (aam).

<sup>2</sup> The 8-hour federal O<sub>3</sub> standard was revised from 0.075 ppm to 0.070 ppm in 2015. The statistics shown are based on the 2015 standard of 0.070 ppm.

### *Existing Sources of TAC Emissions*

The existing light-industrial uses located to the south of the southwestern portion of the Project site are the primary source of potential TAC emissions in the vicinity the Project site. Examples of TAC emissions that could be generated by various uses within this area of the project are listed in **Table 3.2-7, Examples of Toxic Air Emissions Potentially Generated Within Proposed Light Industrial Uses**. Each of these pollutants would be controlled in accordance with the permit requirements of the VCAPCD. Typical permit requirements would vary based on the particular use and could include such requirements as the installation of scrubbers. The permit process and implementation of conditions on a use-by-use basis would ensure that the light-industrial emissions do not exceed the limits established to protect public health and safety and that no permit to operate can be issued unless it is proven that emissions would not exceed the limits, typically by a health risk assessment conducted during the environmental review process. As a result, the Proposed Project would not locate sensitive receptors in close proximity to substantial sources of TACs and would result in a less than significant impact to on-site sensitive receptors.

In addition to area/stationary sources of TACs, mobile sources are also regional contributors to TAC emissions. CARB has determined that adverse health effects are generally elevated near heavily traveled roadways. The CARB guidance document, *Air Quality and Land Use Handbook*, recommends that lead agencies, where possible, avoid citing new sensitive land uses within 500 feet of a freeway,<sup>7</sup> urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. This recommendation is not mandated by state law, but only serves as a general guidance to lead agencies when considering land use projects. According to CARB, it is up to lead agencies to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues.<sup>8</sup> The project would not locate sensitive land uses within 500 feet of freeways or heavily traveled roads. An analysis of the traffic report for the project indicated average daily trips much less than the 100,000 limit for urban roads (see **Appendix 3.10**). In addition, the nearest freeways (State Routes 23 and 118) are over 1-mile from the Project site. For these reasons, no significant impacts to on-site sensitive receptors are anticipated with respect to existing mobile source TACs.

**Table 3.2-7**  
**Examples of Toxic Air Emissions Potentially Generated Within Proposed Light Industrial Uses<sup>1</sup>**

Light Industrial Use	Source Type	Toxic Air Emissions
Electrical Manufacturing	Transformer Plating	PCBs, Cadmium, Chromium, Nickel, Trichloroethylene, 1,4-Dioxane
Electronic Manufacturing	Plating, Etching	Cadmium, Chromium, 1,4-Dioxane, Nickel, Trichloroethylene,
Medical Equipment Sterilization Facility	Ethylene Oxide Sterilization Chamber	Ethylene Oxide
Fiberglass Manufacturing	Machine Operation with Baghouse	Styrene
Auto Machine Shop	Arc Grinders	Asbestos

*Source type and toxic air emission from the South Coast Air Quality Management District, CEQA Air Quality Handbook, (1993) 5-12 – 5-13.*

<sup>1</sup> *Permitted use in M-1 Zone per Moorpark Municipal Code with administrative permit, development permit or conditional use permit.*

<sup>7</sup> California Air Resources Board, *Air Quality and Land Use Handbook*, (2005) 8-9. The 2002 study of impacts along the San Diego (I-405) Freeway and the Long Beach (I-710) Freeway cited by CARB in its Air Quality and Land Use Handbook found a substantial reduction in pollutant concentrations, relative exposure, and health risk beyond 300 feet.

<sup>8</sup> California Air Resources Board, *Air Quality and Land Use Handbook*, (2005) 4.

### 3.2.3 THRESHOLDS OF SIGNIFICANCE

#### 3.2.3.1 CEQA Significance Thresholds

In accordance with *State CEQA Guidelines* (Appendix G), the following significance threshold criteria should be used to evaluate the potential air quality impacts of projects within the City of Moorpark and Ventura County. The project would have a significant air quality impact if it would:

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

The *State CEQA Guidelines* (Section 15064.7) provide that, when available, the significance criteria established by the applicable air quality management district or air pollution control district may be relied upon to make determinations of significance. The potential air quality impacts of the Proposed Project are, therefore, evaluated according to thresholds developed by the VCAPCD in its *Ventura County Air Quality Assessment Guidelines* (VCAPCD Guidelines) and subsequent guidance, which are listed below. While the VCAPCD *Ventura County Air Quality Assessment Guidelines* contains significance thresholds for lead using the California and the federal government ambient air quality standards and thresholds as noted above in Table 3.2-3, construction and operation of the Project will not exceed these established thresholds. Furthermore, as discussed near the beginning of this section, the region is below the state and federal ambient air quality standards for lead. Therefore, lead emissions from the Project will not cause an air quality violation and will not be analyzed further.

#### 3.2.3.2 Project-level Air Quality Significance Thresholds

##### *Ozone Precursors*

The VCAPCD has issued thresholds for determining the level of significance for project-specific developments within Ventura County. Projects exceeding any of the criteria in the long term are considered to have significant impacts. The following are ROC and NO<sub>x</sub> thresholds that the VCAPCD has determined will individually and cumulatively jeopardize attainment of the federal ozone standard, which will result in a significant adverse impact on air quality in Ventura County:

- Reactive Organic Compounds (ROC): 25 pounds per day.
- Nitrogen Oxides (NO<sub>x</sub>): 25 pounds per day.
- A project which may cause an ambient air quality standard (state or federal) to be exceeded, or makes a substantial contribution to an already existing air quality standard. Substantial is defined as making measurably worse an existing or federal ambient air quality standard that is exceeded.

### ***Toxic Air Contaminants***

The VCAPCD Guidelines include significance thresholds for evaluating the health effects of TACs. The VCAPCD suggests the following thresholds in determining the significance of TACs from the construction and operation of proposed projects:

- If the proposed project would result in a lifetime probability of contracting cancer that is greater than 10 in 1 million (10 x 10<sup>-6</sup>); and;
- If the proposed project would cause a Health Hazard Index of 1 or greater when evaluating for non-carcinogenic effects of TACs.

### ***Odors***

The VCAPCD Guidelines recommend that a proposed project include an assessment of the potential to cause a public nuisance by subjecting surrounding land uses to objectionable odors. A public nuisance is defined by VCAPCD Rule 51 (Nuisance) as "...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 to the public, or which cause, or have a natural tendency to cause, injury or damage to business or property."<sup>9</sup> The assessment also should evaluate the potential for a proposed project to be impacted by objectionable odors from nearby existing or proposed land uses. Any project that has the potential to create a public nuisance by subjecting members of the public to objectionable odors should be deemed to have a significant odor impact.

### ***Valley Fever***

San Joaquin Valley Fever (formally known as Coccidioidomycosis) is an infectious disease caused by the fungus *Coccidioides immitis*. Infection is caused by inhalation of *Coccidioides immitis* spores that have become airborne when dry, dusty soil or dirt is disturbed by wind, construction, farming, or other activities. The

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<sup>9</sup> Ventura County Air Pollution Control District, *Ventura County Air Quality Assessment Guidelines*, (2003) 6-10.

Valley Fever fungus tends to be found at the base of hillsides, in virgin, undisturbed soil and is found in the southwestern United States. In its primary form, symptoms appear as a mild upper respiratory infection, acute bronchitis, or pneumonia. The most common symptoms are fatigue, cough, chest pain, fever, rash, headache, and joint aches, although 60 percent of people infected are asymptomatic and do not seek medical attention. In the remaining 40 percent, symptoms range from mild to severe.

There is no recommended threshold for a significant San Joaquin Valley Fever impact. However, the following factors may indicate a project's potential to create significant Valley Fever impacts:

- Disturbance of the top soil of undeveloped land (to a depth of about 12 inches);
- Dry, alkaline, sandy soils;
- Virgin, undisturbed, non-urban areas;
- Windy areas;
- Archaeological resources probable or known to exist in the area (Native American midden sites);
- Special events (fairs, concerts) and motorized activities (motocross track, All Terrain Vehicle activities) on unvegetated soil (non-grass); and,
- Non-native population (i.e., out-of-area construction workers).

The lead agency should consider the factors above that are applicable to the project or the Project site. The likelihood that the Valley Fever fungus may be present and impact nearby land uses (or the project itself) increases with the number of the above factors applicable to the project or the Project site. Based on these or other factors, if a lead agency determines that project activities may create a significant Valley Fever impact, the VCAPCD recommends that the lead agency consider the Valley Fever mitigation measures listed in the VCAPCD Guidelines. These mitigation measures focus on fugitive dust control to minimize fungal spore entrainment, as well as minimizing worker exposure. These measures are included in **Construction Mitigation Measure MM AQ-1**, see **Section 3.2.6.2**.

### 3.2.3.3 Cumulative-level Air Quality Significance Thresholds

The VCAPCD *Guidelines* recommend the following thresholds for determining the level of significance for cumulative long-term impacts within Ventura County:

- Any individual general development project located outside the Ojai Valley Planning Area and Ventura 1 Non-Growth area capable of emissions of 25 pounds per day of ROC and NO<sub>x</sub> both individually and cumulatively have a significant impact on air quality in the County.
- Any cumulative project group which may cause an ambient air quality standard (state or federal) to be exceeded, or makes a substantial contribution to an already exceeded air quality standard.
- Any individual project with emissions greater than two pounds per day of ROC or two pounds per day of NO<sub>x</sub> that is found to be inconsistent with the AQMP will have a significant cumulative air quality impact. A project with emissions below two pounds per day of ROC, and below two pounds per day of NO<sub>x</sub>, is not required to assess consistency with the AQMP.
- Any General Plan Amendment or revision which would provide directly or indirectly for increased population growth above that forecasted in the most recently adopted AQMP will have a significant air quality impact.

#### 3.2.3.4 Methodology

Construction and operational criteria air pollutant emissions were calculated in the California Emissions Estimator Model (CalEEMod) Version 2020.4.0 and were compared to the VCAPCD's operational significance thresholds. The project characteristics in the CalEEMod model were set to a project location of VCAPCD, a Climate Zone of 8, and a project opening year of 2027. The construction schedule was provided by the Project Applicant and includes the phased buildout outlined in **Table 2.0-3** in **Section 2.0, Project Description**, and described in more detail below. Construction equipment used for each phase was based on CalEEMod defaults. It was assumed Phase 1 would involve approximately 3.9 million cubic yards of earth material movement and Phase 3 would involve approximately 1.5 million cubic yards of earth material movement; however, grading would be balanced on-site with no off-site export or import required. The CalEEMod default estimates for construction worker and vendor trips for the building construction and architectural coating phases as well as the default estimates for the square footage for exterior and interior architectural coating were adjusted to reflect the proportion of plan buildout anticipated for each construction sub-phase.<sup>10</sup> For project operation, the default trip length values for residential land uses were adjusted to match the project's estimated 33,585 daily VMT, or 12,258,525 annual VMT, which is based on the VMT analysis contained in **Section 3.15, Transportation**. For both project construction and operation, the CalEEMod default values for the ROC content of architectural coatings was adjusted to reflect compliance with VCAPCD Rule 74.2, which sets an ROC content limit of 50 grams per

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<sup>10</sup> By default, CalEEMod assumes full plan buildout during each building construction and architectural coating phase. Therefore, adjustments are necessary to account for the proposed phased buildout of the Specific Plan.

liter for flat, nonflat, and nonflat – high gloss coatings. Additionally, in order to calculate the health risk posed to the nearest residential and school receptors, the concentration of diesel particulate matter (DPM) was calculated with the U.S. EPA’s AERMOD, an air dispersion modeling tool, and the cancer risk was estimated with OEHHA and CAPCOA’s latest guidance.

### 3.2.4 PROJECT IMPACTS

**Impact AQ-1 Conflict with or obstruct implementation of the applicable air quality plan.**

#### *Less than Significant*

As discussed earlier in this air quality impact analysis, the 2016 AQMP is designed to accommodate growth, to reduce the high levels of pollutants within the County, and to identify a control strategy representing the full implementation of known technology to reduce ozone-forming emissions from mobile and stationary sources. According to the VCAPCD, inconsistent projects are usually those which cause the jurisdiction’s AQMP population projections to be exceeded by a substantial amount, or for an indefinite period of time.<sup>11</sup> For residential projects, a finding of inconsistency would be made if the project would cause the area in which it would be located to exceed the AQMP population forecasts.<sup>12</sup> The Proposed Project’s consistency with the AQMP is discussed below. Inconsistency is considered a significant cumulative air quality impact.

#### **Population Forecast Consistency**

According to the Southern California Association of Government’s (SCAG) population projections from the Connect SoCal 2020 RTP/SCS, the City of Moorpark had an estimated population of 36,700 persons as of 2016, with a forecasted population of 42,200 in the year 2045, an increase in population by 5,500 residents.<sup>13</sup> As discussed in **Section 3.11, Population and Housing**, the Proposed Project is expected to increase the population within the City by approximately 2,492 persons. This would not provide directly or indirectly for increased population growth above that forecasted in the most recently adopted AQMP. As such, Project-generated emissions have been accommodated in the AQMP emissions forecasts, and the Proposed Project would not jeopardize attainment of air quality standards in Ventura County. Therefore, the Proposed Project is considered consistent with the AQMP.

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<sup>11</sup> Ventura County Air Pollution Control District. *Ventura County Air Quality Assessment Guidelines*, October 2003.

<sup>12</sup> *Ibid.*, p. 4-2.

<sup>13</sup> SCAG Connect SoCal 2020 RTP/SCS Demographics and Growth Forecast [https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial\\_demographics-and-growth-forecast.pdf?1606001579](https://scag.ca.gov/sites/main/files/file-attachments/0903fconnectsocial_demographics-and-growth-forecast.pdf?1606001579), accessed July 5, 2021.

Furthermore, the Plan includes various emission reduction strategies and project features that are included in the AQMP and *Ventura County Air Quality Assessment Guidelines*. These Project Features, aimed at reducing Project emissions by encouraging transit and pedestrian modes, include providing street lighting, bus turnouts, pedestrian signalization, sidewalks, and route signs and displays. Therefore, the Plan is consistent with emission reduction strategies included in the AQMP, and cumulative impacts are less than significant.

### **Local Jurisdiction Implementation of the AQMP**

Many of the AQMP assumptions rely on transportation control measures implemented by local jurisdictions. On December 7, 1988, the City Council of the City of Moorpark adopted a resolution to implement reasonably available transportation control measures from the AQMP.<sup>14</sup> Included within this resolution are ridesharing programs, traffic flow improvements, land use strategies, transit programs, and non-motorized strategies which are consistent with the strategies identified in the AQMPs. The City continues to implement these and other transportation control measures proposed in the City's resolution on a local level. Therefore, the City is consistent with the region's commitment to improve local air quality.

### **Consistency with the Moorpark General Plan**

The Plan is required to be consistent with the policies outlined in the *City of Moorpark General Plan*. In general, the City's General Plan supports the VCAPCD and CARB's mission to protect public health and welfare from the adverse effects of air pollution, but it does not list any specific thresholds for assessing the significance of a project's emissions.

Residential projects are not typically associated with large point sources that could potentially impact the health and well-being of adjacent residences. In addition, the new residential homes would be built compliant with Green Building standards and exceeding Title 24. Furthermore, some residents of the Proposed Project would be walking and biking distance from the Moorpark downtown area and within 0.5 to 1.1 miles of the Metrolink train station, the City donation parcel is approximately a quarter-mile from the Civic Center and less than a half mile to downtown. The proximity to a commercial and employment center would reduce vehicle trips in the region, thereby reducing air emissions. The Plan is designed to be consistent with the goals and policies of the Moorpark General Plan, including through the implementation of a Transportation Demand Management (TDM) fund.

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<sup>14</sup> Ventura County Air Pollution Control District, *Resolutions of Commitment to Implement Reasonably Available Transportation Control Measures from the 1987 Ventura County Air Quality Management Plan*, December 1988.

Therefore, the Plan would not conflict with or obstruct implementation of the AQMP, impacts would be less than significant.

**Impact 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.**

*Less than Significant with Mitigation (Construction Phase)*

*Significant and Unavoidable (Operational Phase)*

## **Construction**

### ***Emissions and Fugitive Dust***

During the grading and construction phases of development, air emissions (ROC and NO<sub>x</sub>) would be generated by on-site stationary sources, heavy-duty construction vehicles, construction worker vehicles, and energy use during the construction phase. In addition to grading and construction vehicle emissions, fugitive dust (PM<sub>10</sub> and PM<sub>2.5</sub>) would also be generated during grading and construction activities. While much of this airborne dust would settle out of, or near, the development area, smaller particles would remain in the atmosphere, increasing existing particulate levels within the surrounding area. Regular watering of unpaved areas, which is one of the VCAPCD recommended measures, can reduce expected fugitive dust emissions, the level of dust suppression is dependent on the frequency of watering, amount of water added each application, the frequency of travel on the roadway, and meteorological conditions.<sup>15</sup> With implementation of watering unpaved roads as well as the other recommended measures as identified by the VCAPCD, fugitive dust would be further reduced.

### **Construction Phasing**

The construction period for the Plan is anticipated to begin in June 2022 and last approximately 60 months. Development would occur in six phases.

**Phase 1** would involve initial mass grading of the Plan area and installation of the proposed infrastructure (i.e., detention basins, road extensions and widenings, underground utilities, and connections to the Ventura County Water Protection District Easement). Mass grading operations would occur over 10 months in 2022 and would involve the movement of 3.9 million cubic yards of earth material to create the manufactured slopes. No soil would be exported or imported during grading activities; therefore, haul

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<sup>15</sup> U.S. EPA. 2006. AP 42, Section 13.2.2 Unpaved Roads. Available online at: <https://www3.epa.gov/ttn/chief/ap42/ch13/final/c13s0202.pdf>, accessed November 12, 2019.

trucks would not be used during grading operations to transport soil. Asphalt paving operations would occur over a 4-month period. Construction emissions were estimated using CalEEMod. Grading equipment required to complete the initial mass site grading was estimated using CalEEMod default values. Construction equipment was assumed to be stored on site during construction to minimize disruption of the surrounding land uses. Asphalt paving equipment was estimated using the CalEEMod default values. Phase 1 is expected to be completed over 12 months by 2023.

**Phase 2** would consist of sub-grade construction (i.e., installation of necessary infrastructure) and above-grade construction (i.e., building construction) for approximately 250 single- and multi-family homes. Building construction activities during this phase on a worst-case day would involve the use of standard construction equipment also estimated by CalEEMod. Minimal fine grading would be required during this phase to prepare building pads. Phase 2 is expected to be completed in 18 months by 2024.

**Phase 3** would involve the second phase of mass grading of the Project site and installation of proposed infrastructure in the western portion of the site including detention basins, road extensions and widenings and underground utilities. Mass grading operations would occur over four months in late 2023 and would involve the movement of approximately 1.5 million cubic yards of earth material. In this phase, paving operations would also occur over a four-month period. Phase 3 would take a total of 12 months and would be complete by 2024. This land development may have some overlap with housing construction in Phase 2.

**Phase 4** would develop approximately 200 single- and multi-family homes and the necessary infrastructure necessary for their operation. In addition, a recreational lot and a passive recreational lot would be developed to serve the residents of the proposed residential units. On a worst-case day, building construction activities during this phase would involve the use of standard construction equipment estimated by CalEEMod. Minimal fine grading would be required during this phase to prepare building pads. Phase 4 is anticipated to be completed in 12 months by 2025.

**Phase 5** would develop approximately 200 single- and multi-family homes and the infrastructure necessary for their operation. In addition, a recreational lot would be developed to serve the proposed residents. On a worst-case day, building construction activities during this phase would involve the use of standard construction equipment estimated by CalEEMod. Minimal fine grading would be required during this phase to prepare building pads. Phase 5 is anticipated to be completed in 12 months by 2026.

**Phase 6** would develop approximately 105 single- and multi-family homes and the necessary infrastructure necessary for their operation. Building construction activities during this phase would involve the use of standard construction equipment estimated by CalEEMod. Minimal fine grading would be required during this phase to prepare building pads. Phase 6 is anticipated to be completed in 9 months by 2027.

Construction emissions were calculated using the CalEEMod emissions estimator. CalEEMod is the preferred model for projects within the VCAPCD.<sup>16</sup> **Table 3.2-8, Estimated Construction Emissions**, identifies estimated daily emissions that are associated with construction by year. These estimates are based on the expected location, size, and development of the project. The analysis assumes that all of the construction equipment and activities would operate continuously for 8-hours each day and that activities (e.g., construction, architectural coatings, and asphalt paving) would overlap. In reality, this would not occur, as most equipment would operate for only a fraction of each workday and many of the activities would not overlap on a daily basis. Therefore, the emissions shown in **Table 3.2-8** represent a worst-case scenario for construction activities.

**Table 3.2-8**  
**Estimated Construction Emissions**

Construction Year	ROC	Emissions in Pounds per Day				
		NO <sub>x</sub>	CO	SO <sub>2</sub>	PM10	PM2.5
2022	4	39	30	<1	16	6
2023	6	51	50	<1	18	7
2024	38	48	51	<1	18	7
2025	30	28	27	<1	10	5
2026	28	28	27	<1	10	5
2027	28	13	18	<1	1	1
<b>Maximum Daily Emissions in Any Year:</b>	<b>38</b>	<b>51</b>	<b>51</b>	<b>&lt;1</b>	<b>18</b>	<b>7</b>

Source: Rincon Consultants, Inc. December 2021. Emissions calculations are provided in **Appendix 3.2-A**. Assumes compliance with VCAPCD's fugitive dust control measures.

The primary construction-related source of NO<sub>x</sub> and ROC emissions is heavy-duty construction equipment. Construction emissions of NO<sub>x</sub> and ROC are not counted toward the adopted significance thresholds because VCAPCD considers them temporary.<sup>17</sup> VCAPCD recommends implementation of construction control measures if construction emissions exceed 25 pounds per day. For construction control measures, as recommended by VCAPCD, see VCAPCD Construction Control Measures **CM AQ-1** and **CM AQ-2**, and Construction Mitigation Measure **MM AQ-2**, in **Sections 3.2.6.1** and **3.2.6.2**.

The VCAPCD does not identify construction air quality impacts as the cause of significant air quality impacts assuming standard construction control measures, as called for by the District, are implemented during construction activities. Therefore, although short-term construction impacts would be considered a

<sup>16</sup> VCAPCD. *Air Quality Assessment for CEQA*. Available online at: <http://www.vcapcd.org/environmental-review.htm>, accessed November 13, 2019.

<sup>17</sup> VCAPCD. 2003. *Ventura County Air Quality Assessment Guidelines*. Available online at: <http://vcapcd.org/pubs/Planning/VCAQGuidelines.pdf>, p. 5-4.

nuisance, with the implementation of recommended construction control measures, construction air quality impacts would be considered less than significant.

### *Valley Fever*

Some health problems, particularly those of the eye and respiratory tract may be aggravated by fugitive dust. Such health problems include Coccidioidomycosis (also known by its common name, Valley Fever). Valley fever is contracted through breathing spores that become airborne through disturbance of the soil. However, Ventura County is not recognized as an area where Coccidioidomycosis is highly endemic.<sup>18</sup> According to the Center of Disease Control (CDC), the average number of cases of Valley Fever in Ventura County residents from 2011 to 2017 was 6.0 to 20.9 cases per 100,000 people.<sup>19</sup> The only large-scale outbreak in the County occurred in Simi Valley between January 24 and March 15, 1994, following the Northridge earthquake due to uncontrolled dust clouds created by landslides.<sup>20,21</sup> Grading associated with the Project would not result in fugitive dust emissions on the level of a Northridge earthquake. However, construction of Plan elements as described above will result in the disturbance of large amounts of topsoil on undeveloped land. Such land could contain the Valley Fever fungus, which is one of the factors listed above. While construction emissions during the initial year would not exceed 25 pounds per day of PM<sub>10</sub>, the Plan would result in the grading of approximately 5.4 million cubic yards (mcy) of soil, approximately 3.9 mcy during Phase 1 and approximately 1.5 mcy during Phase 3. Therefore, the Project is conservatively assumed to have a potentially significant impact with respect to Valley Fever and mitigation is required. See Construction Mitigation Measure **MM AQ-1, Section 3.2.6.2**.

## **Operation**

### *Area/Stationary and Mobile Source Emissions*

Operational emissions associated with the development and operation of the Project would result primarily from increased vehicular trips to and from the site. The number of vehicle trips was obtained from the traffic impact analysis for the Project (**Appendix 3.10**). Other sources of emissions would include new area/stationary sources such as water and space heaters and cooking appliances, landscape maintenance

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<sup>18</sup> Eileen Schneider and others, "A Coccidioidomycosis Outbreak Following the Northridge, Calif. Earthquake," *Journal of American Medicine* Vol. 277, No. 11 (March 19, 1997): 904.

<sup>19</sup> Centers for Disease Control and Prevention. Valley Fever Maps. Available online at: <https://www.cdc.gov/fungal/diseases/coccidioidomycosis/maps.html>, accessed November 13, 2019.

<sup>20</sup> Schneider and others, "A Coccidioidomycosis Outbreak Following the Northridge, Calif. Earthquake," *Journal of American Medicine* Vol. 277, No. 11 (March 19, 1997): 904.

<sup>21</sup> *Ibid.*

equipment, and consumer products. The estimated emissions associated with Project operation were calculated with the CalEEMod program, recommended for use by the VCAPCD.<sup>22</sup>

Average daily emissions associated with the Project are presented below in **Table 3.2-9, Estimated Project Daily Emissions at Buildout**. As shown, calculations indicate the Project would generate daily emissions of ROC that would exceed the VCAPCD's threshold of significance for operational emissions at Project buildout in 2027. These emissions would be significant without mitigation.

**Table 3.2-9  
Estimated Project Daily Emissions at Buildout**

Emissions Source	ROC	Emissions in Pounds per Day				
		NO <sub>x</sub>	CO	SO <sub>x</sub>	PM10	PM2.5
Area Source	27	1	62	<1	<1	<1
Energy Source	<1	4	2	<1	<1	<1
Mobile Source	14	14	122	<1	27	7
Emissions Totals	41	19	185	<1	28	8
Recommended Threshold	25	25	—	—	—	—
<b>Exceeds Threshold?</b>	<b>Yes</b>	<b>No</b>	—	—	—	—

Source: Rincon Consultants, Inc., December 2021. Emissions calculations are provided in **Appendix 3.2-A**.

Totals in table may not appear to add exactly due to rounding in the computer model calculations.

<sup>1</sup> "Summertime Emissions" are representative of worst-case conditions that may occur during the ozone season (May 1 to October 31).

<sup>2</sup> "Wintertime Emissions" are representative of worst-case conditions that may occur during the balance of the year (November 1 to April 30).

The Proposed Project's impacts would be considered both individually and cumulatively significant without mitigation. Implementation of Operational Mitigation Measure **MM AQ-3** would reduce Project level and cumulative impacts to the extent feasible; however, as detailed in **Section 3.2.7**, impacts would remain significant and unavoidable.

### **Carbon Monoxide Hotspots**

Motor vehicles are a primary source of pollutants within the project vicinity. Traffic congested roadways and intersections have the potential to generate localized levels of carbon monoxide (CO). Localized areas where ambient concentrations exceed state and/or federal standards are termed CO "hotspots." CO is produced in greatest quantities from vehicle combustion and is usually concentrated at or near ground level because it does not readily disperse into the atmosphere. As a result, potential air quality impacts to

<sup>22</sup> VCAPCD. *Air Quality Assessment for CEQA*. Available online at: <http://www.vcapcd.org/environmental-review.htm>, accessed November 21, 2019.

sensitive receptors are assessed through an analysis of localized CO concentrations. Areas of vehicle congestion have the potential to create CO hotspots that exceed the state ambient air quality 1-hour standard of 20 ppm or the 8-hour standard of 9 ppm. The federal levels are less stringent than the state standards and are based on 1- and 8-hour standards of 35 and 9 ppm, respectively. Thus, an exceedance condition would occur, based on the state standards prior to exceedance of the federal standard.

Long-term operations of the Project would not result in exceedances of CO air quality standards at roadways in the area. This is due to three key factors. First, CO hotspots are extremely rare and only occur in the presence of unusual atmospheric conditions and extremely cold conditions, neither of which applies to the Plan area. Second, auto-related emissions of CO continue to decline because of advances in fuel combustion technology in the vehicle fleet. Finally, the Project would not contribute to the levels of congestion that would be needed to produce the amount of emissions needed to trigger a potential CO hotspot.

Screening analysis guidelines for localized CO hotspot analyses from Caltrans recommend that projects in CO attainment areas focus on emissions from traffic intersections where air quality may get worse.<sup>23</sup> Specifically, projects that significantly increase the percentage of vehicles operating in cold start mode, significantly increase traffic volumes, or worsen traffic flow should be considered for more rigorous CO modeling. The Proposed Project is not anticipated to significantly increase traffic volumes or worsen traffic flow. In addition, the Project would not significantly increase the percentage of vehicles operating in cold start mode or substantially worsen traffic flow.

In 2004, Ventura County stopped monitoring ambient CO, with the approval of the U.S. EPA because CO background concentrations in El Rio, Simi Valley, and Ojai were much lower than the State Ambient Air Quality Standard. Therefore, no CO hotspots are expected to occur anywhere in Ventura County and additional CO modeling analysis with the LOS comparison is not warranted. In addition, with over 80% of the CO in urban areas emitted by motor vehicles, and with stricter, cleaner emission standards to the mobile fleet, CO ambient concentrations should remain at or lower than the most recent CO monitoring data available for Ventura County. As a result, CO hotspots are not predicted to exist and cumulative impacts would not be significant.

As a result, no significant impacts would occur relative to future carbon monoxide concentrations. The impact would be less than significant, and no further analysis is required.

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<sup>23</sup> Caltrans, *Transportation Project-Level Carbon Monoxide Protocol*, updated October 13, 2010.

**Impact AQ-3            Expose sensitive receptors to substantial pollutant concentrations.***Less than Significant with Mitigation*

Cancer and Non-Cancer Health Risks Temporary project impacts related to health risk can occur from Project construction activity, which would generate dust and equipment exhaust that could affect nearby sensitive receptors. Construction of the Project would include site clearance and grading, placement of utilities, building construction, paving, application of architectural coatings, and interior finishing. Construction equipment and associated heavy-duty truck trips generate exhaust which contains diesel particulate matter (DPM), known as a toxic air contaminant (TAC).

Operation would generate vehicle trips to and from residences. Since this is a residential project, most of the vehicle trips are expected to come from gasoline powered passenger cars. The site may attract some heavy-duty diesel trucks which emit DPM.

Construction and operational emissions were estimated from CalEEMod and dispersion modeling was conducted to predict the off-site concentration resulting from project construction and operation, so that lifetime excess cancer risk and non-cancer health risk could be predicted. The HRA was conducted following methods in the Office of Environmental Health Hazard Assessment's (OEHHA) Guidance Manual for Preparation of Health Risk Assessments and CAPCOA's *Air Toxics Hot Spots Program*. The cancer and non-cancer risks were compared to VCAPCD's thresholds, which include:

- Lifetime probability of contracting cancer is greater than 10 in one million
- Ground-level concentrations of non-carcinogenic toxic air pollutants would result in a Hazard Index of greater than 1.

The CalEEMod model provided annual PM<sub>2.5</sub> exhaust emissions (assumed to be DPM) from off-road construction equipment used during project construction and exhaust emissions from on-road vehicles (haul trucks, vendor trucks, and worker vehicles) for each phase of project construction. Additionally, the CalEEMod model provided the operational PM<sub>2.5</sub> exhaust emissions upon full project buildout. The U.S. Environmental Protection Agency (EPA) AERMOD dispersion model was used to predict concentrations of DPM at sensitive receptors near the Project site in order to calculate the cancer risk consistent with guidance from the Office of Environment Hazard Health Assessment (OEHHA) and the California Air Pollution Control Officers Association (CAPCOA). A full discussion of methodology and calculations are provided in the **Health Risk Assessment Memorandum**, included as **Appendix 3.2-B** and **3.2-C**, respectively, to this Draft EIR.

Review of the Project site demonstrates that the nearest residential receptors are 100 feet east and 200 feet south of the Project site. Due to atmospheric conditions at the site, the highest concentration of pollutants was found to occur at the residence 200 feet south of the site and, as a result, the maximally exposed individual (MEI) residential receptor was evaluated at this site. Additionally, the Walnut Canyon Elementary School and the Chaparral Middle School lie 75 feet southeast and 230 feet south of the site, respectively. Finally, project construction is expected to occur in phases and upon completion of Phase 2, on-site residential receptors may live on-site. As a result, a cancer risk was estimated for a residential receptor living in Planning Area 2 during the remainder of project construction and operation. As demonstrated in **Table 3.2-10, Risk Posed to the Nearest Residential Receptor – Unmitigated**, the health risk posed to the nearest sensitive residential receptor over a thirty-year lifetime beginning at the third trimester of life is approximately 19.52 in one million and, as a result, exceeds the VCAPCD’s cancer risk thresholds. Additionally, VCAPCD recommends evaluating the non-cancer health risks from exposure to TACs based on the ratio of TAC generated by a project and the reference exposure level, referred to as a hazard index (HI). As demonstrated in **Table 3.2-10**, the HI would not exceed VCAPCD thresholds.

**Table 3.2-10**  
**Risk Posed to the Nearest Residential Receptor – Unmitigated**

Receptor	Lifetime Excess Cancer Risk (per million)	Hazard Index
3 <sup>rd</sup> Trimester	0.61	0.011
Infant	14.62	0.012
Child	3.82	0.006
Adult	0.47	0.002
Total 30-Year Cancer Risk	19.52	-
<i>Significance Threshold</i>	10	1.0
<i>Exceed Threshold?</i>	Yes	No

*Source: Impact Sciences, 2020.*

\*The Hazard Index (HI) was calculated based on the average construction DPM emissions over the duration of each receptor.

Thus the 30-year residential cancer risk posed to the nearest residential receptor 200 feet from the site is approximately 19.52 in one million, see **Appendix 3.2-B, Health Risk Assessment Memorandum**. As a result, the risk posed to the receptor is higher than VCAPCD’s cancer risk thresholds. The highest cancer risks will occur during the infantile stages of life, during Phase 1 and Phase 2 of construction. Consistent with VCAPCD recommendations for construction projects that have the potential to emit significant levels of ROG and NOX emissions, the Proposed Project will implement VCAPCD Construction Control

Measures listed in **Section 3.2.6.1** as **CM AQ-1** and **CM AQ-2**. These measures would also reduce DPM emissions during project construction by promoting the use of alternative fueled equipment, minimizing the idling time, and requiring equipment to be in good working order. Regardless, the project would be required to implement mitigation in order to reduce the impacts posed to the nearest residential receptor as a result of project construction. Specifically, the project will implement Construction Mitigation Measure **MM AQ-2**, which will require to developer to use Tier 4 construction equipment throughout the duration of construction. **Table 3.2-11, Risk Posed to the Nearest Residential Receptor – Mitigated** demonstrates that with implementation of mitigation, the cancer risk will be approximately 5.77 in one million and, therefore, will be less than significant.

**Table 3.2-11**  
**Risk Posed to the Nearest Residential Receptor – Mitigated**

Receptor	Lifetime Excess Cancer Risk (per million)	Hazard Index
3 <sup>rd</sup> Trimester	0.04	0.001
Infant	2.24	0.002
Child	3.02	0.002
Adult	0.47	0.002
Total 30-Year Risk	5.77	-
<i>Significance Threshold</i>	10	1.0
<i>Exceed Threshold?</i>	<i>No</i>	<i>No</i>

*Source: Impact Sciences, 2020.*

\*The Hazard Index (HI) was calculated based on the average construction DPM emissions, the highest HI would occur during Phase 1 at 0.0128, which is still significantly lower than the threshold.

Thus, the 30-year residential cancer risk posed to the nearest residential receptor 200 feet from the site is approximately 5.77 in one million with implementation of Construction Mitigation Measure **MM AQ-2**, see **Appendix 3.2-B, Health Risk Assessment Memorandum**. Finally, the risks posed to the maximally exposed school child was calculated as the Walnut Canyon Elementary School and Chaparral Middle School lie adjacent to the Project site. The risk posed to the maximally exposed school child, assuming 9 years of exposure, is approximately 0.4 in a million and the risk posed to the on-site residential receptor from project construction and operation is approximately 5.77 in a million assuming that they would live on the site following Phase 2 of construction. Therefore, with mitigation, the risks posed to these receptors would be less than VCAPCD significance thresholds, calculations are provided in the **Health Risk Assessment Memorandum**, included as **Appendix 3.2-B** to this EIR.

**Impact AQ-4                      Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.**

*Less than Significant*

For impacts associated with odors, the VCAPCD considers specific land uses primarily associated with odor complaints such as wastewater treatment plants, landfills, composting operations, petroleum operations, food and byproduct processes, factories, and agricultural activities, such as livestock operations. As a residential development, construction and operation of the Project would not result in the development of any of the land uses listed above. Additionally, the Project would comply with VCAPCD regulations regarding odor nuisances.

The Project would not include the development and operation of any of land uses generally associated with odor complaints. Any project generated refuse would be stored in covered containers and removed at regular intervals in compliance with the City's solid waste regulations which would prevent substantial nuisance odors to be perceived off the Project Site. Therefore, potential odor impacts associated with construction of the Project and/or the Project operation would be less than significant.

### 3.2.5 CUMULATIVE IMPACTS

As explained above, the analysis of air quality emissions include a cumulative impacts analysis. Accordingly, the analysis above took into account the potential for the Project to contribute to cumulative impacts to air quality. The analysis above illustrates that implementation of the project's regulatory requirements and mitigation measures, including state mandates, would contribute to reductions to air quality impacts.

As stated under **Impact AQ-1**, the Project's projected population would not exceed growth evaluated within SCAG's 2016 RTP/SCS. As such, the emissions generated from the Project have been evaluated within the AQMP. Project construction will result in the emissions of ozone precursors, ROG and NO<sub>x</sub>, for which the area is in non-attainment. However, these emissions will be short-term in nature and the Project will implement the VCAPCD's recommended construction measures to reduce these emissions.

Furthermore, construction of the Project has the potential to generate particulate matter emissions that has the potential to result in Valley Fever. Project construction will reduce this risk by implementing the VCAPCD's recommended measures, see Construction Mitigation Measure **MM AQ-1**. Additionally, particulate matter emissions will be further reduced through the use of Tier 4 construction equipment throughout the Project site, see Construction Mitigation Measure **MM AQ-2**. Therefore, the cumulative impact from construction criteria air pollutants is less than significant with mitigation. However, project operation has the potential to generate ROG emissions in excess of the VCAPCD's threshold of significance,

and even with implementation of **MM AQ-3**, impacts would remain significant and unavoidable, as detailed in **Section 3.2.7**. Therefore, cumulative operational impacts related to ROC emissions would be significant and unavoidable.

### 3.2.6 MITIGATION PROGRAM

#### 3.2.6.1 VCAPCD Construction Control Measures

**CM AQ-1:** The following control measures provided in the *VCAPCD Air Quality Assessment Guidelines* to minimize the generation of fugitive dust (PM10 and PM2.5), ROC, and NO<sub>x</sub> during construction activities shall be implemented during construction of the Proposed Project:

- The area disturbed by clearing, grading, earth moving, or excavation operations shall be minimized to prevent excessive amounts of dust.
- Pre-grading/excavation activities shall include watering the areas to be graded or excavated before grading or excavation operations commences. Application of water (preferably reclaimed, if available) should penetrate sufficiently to minimize fugitive dust during grading activities.
- Fugitive dust produced during grading excavation and construction activities shall be controlled by the following activities:
  - All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, shall be treated to prevent fugitive dust. Treatment shall include, but not necessarily be limited to, periodic watering, application of environmentally safe soil stabilization material, and/or roll-compaction as appropriate. Watering shall be done as often as necessary and reclaimed water shall be used whenever possible.
  - Graded and/or excavated inactive areas of the construction site shall be monitored at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, and environmentally safe dust control materials, shall be periodically applied to portions of the construction site that are inactive for over four days. If no further grading or excavation operations are planned for the area, the area should be seeded and watered until grass growth is evident, or periodically treated with environmentally safe dust suppressants to prevent excessive fugitive dust.

- Signs limiting traffic to 15 miles per hour or less shall be posted on site.
- During periods of high winds (i.e., wind speed sufficient to cause fugitive dust to impact adjacent properties), all clearing, grading, earth moving, and excavation operations shall be curtailed to the degree necessary to prevent fugitive dust created by on-site activities and operations from being a nuisance or hazard, either off site or on site. The site superintendent/supervisor shall use discretion in conjunction with the VCAPCD in determining when winds are excessive.
- Adjacent streets and roads shall be swept at least once per day, preferably at the end of the day if visible soil material is carried over to adjacent streets and roads.
- Personnel involved in grading operations, including contractors and subcontractors, should be advised to wear respiratory protection in accordance with California Division of Occupational Safety and Health regulations.

**Timing/Implementation:** During construction activities

**Enforcement/Monitoring:** City of Moorpark Community Development and Public Works Departments

**CM AQ-2:** During construction contractors shall comply with the following measures to reduce NO<sub>x</sub> and ROC from heavy equipment as recommended by the VCAPCD in its *Ventura County Air Quality Assessment Guidelines*:

- Minimize equipment idling time.
- Maintain equipment engines in good condition and in proper tune as per manufacturer's specifications.
- Lengthen the construction period during smog season (May through October) to minimize the number of vehicles and equipment operating at the same time.
- Use alternatively fueled construction equipment, such as compressed natural gas (CNG), liquefied natural gas (LNG), or electric, if feasible.

**Timing/Implementation:** During construction activities

**Enforcement/Monitoring:** City of Moorpark Community Development Department

### 3.2.6.2 Construction Mitigation Measures

**MM AQ-1:** During heavy grading, construction contractors shall comply with the following measures to reduce potential Valley Fever impacts:

- Hire crews from local populations where possible, since it is more likely that they have been previously exposed to the fungus and are therefore immune.
- Require crews to use respirators during project clearing, grading, and excavation operations in accordance with California Division of Occupational Safety and Health regulations.
- Require that the cabs of grading and construction equipment be air-conditioned or enclosed with sufficient ventilation and particulate matter filtration systems.
- Require crews to work upwind from excavation sites where possible.
- Where acceptable to the fire department, control weed growth by mowing instead of disking, thereby leaving the ground undisturbed and with a mulch covering.
- During rough grading and construction, the access way into the Project site from adjoining paved roadways should be paved or treated with environmentally safe dust control agents. Implementation of VCAPCD CM-AQ-1 (above), control measures provided in the *VCAPCD Air Quality Assessment Guidelines* will also serve to minimize the generation of fugitive dust (PM10 and PM2.5).

**Timing/Implementation:** During construction activities

**Enforcement/Monitoring:** City of Moorpark Community Development and Public Works Departments

**MM AQ-2:** For the entire duration of construction period, all off-road equipment greater than 25 horsepower shall have engines rated by the United States Environmental Protection Agency as complying with Tier 4 final emission limits. The construction contractors shall provide quarterly summaries of compliance with this measure to the City.

**Timing/Implementation:** Prior to the issuance of building permits.

**Enforcement/Monitoring:** City of Moorpark Community Development Department

### 3.2.6.3 Operational Mitigation Measures

The *VCAPCD Air Quality Assessment Guidelines* recommends that all development projects with significant air quality impacts fully mitigate excess emissions through funding measures for at least three years. Therefore, the following mitigation measure shall be implemented to reduce air quality impacts for the Proposed Project:

**MM AQ-3:** The Project Applicant shall submit payment of fees to the City of Moorpark's Transportation System Management Fund (Resolution No. 2006-2461). The fees shall be calculated using the procedure outlined in Resolution No. 2006-2461, which relies on the recommendation of the *VCAPCD Air Quality Assessment Guidelines*. As such, the fees shall be based on the unit cost for ROG in effect at the time the fee is to be paid using the Ventura County Air Quality Assessment Guidelines formula of:

$$(14 \text{ lbs excess mobile source ROG emissions}) \times (\text{unit cost of ROG}) \times (365 \text{ days of operation}) \times (3 \text{ years}) = \text{total cost}$$

The unit cost of ROG shall be calculated by adjusting the year 2000 unit cost of \$5.18 per pound of ROG reduced with an inflation factor calculated by dividing the most recent January Consumer Price Index (All Urban Consumers [All Items 1982-1984=100]) value for the Los Angeles area by the January 2000 Consumer Price Index value for this region of 167.9.

The City of Moorpark shall spend or commit the mitigation fees to a mitigation project within five years of receipt of the funds. The funds shall be prioritized for mitigation projects within Moorpark, or if not feasible to be located within Moorpark, shall be used for mitigation projects in other locations within Ventura County. The mitigation funds shall not be used for traffic engineering projects, including but not limited to signal synchronization, intersection improvements, or channelization. The City shall provide a report to the City Council annually on the collection, expenditure, and use of these mitigation fees.

Each future entitlement, including but not limited to subdivision maps, planned development permits, and conditional use permits, related to the Proposed Project may be conditioned to pay its proportionate share of the cost to reduce ROG emissions.

**Timing/Implementation:** Prior to the issuance of first Certificate of Occupancy for each future entitlement, including but not limited to subdivision maps, planned development permits, and conditional use permits, related to the Proposed Project.

**Enforcement/Monitoring:** City of Moorpark Community Development Department

### 3.2.7 LEVEL OF SIGNIFICANCE AFTER MITIGATION

During construction activities, the developer would implement the VCAPCD-recommended control measures and use Tier 4 construction equipment. Therefore, construction emissions would not cause a significant impact on air quality in the region. Additionally, implementation of VCAPCD Construction Control Measures **CM AQ-1** and **CM AQ-2** and Construction Mitigation Measures **MM AQ-1** and **MM AQ-2** would reduce the cancer health risk posed to nearby residential receptors to a less than significant level.

Following completion of the Proposed Project, the day-to-day activities of the Proposed Project would exceed the VCAPCD threshold of significance for ROC emissions. Implementation of Operational Mitigation Measure **MM AQ-3** would reduce the project's operational mobile source emissions to the extent feasible through payment of offset fees to the City of Moorpark's Transportation System Management Fund, which would be used to implement projects that reduce ROC emissions within VCAPCD jurisdiction (i.e., within Ventura County). However, even if implementation of Operational Mitigation Measure **MM AQ-3** were to reduce the project's operational mobile source emissions to net zero, the project's total operational emissions would still exceed the threshold of 25 pounds per day because the project would still generate operational area source emissions of approximately 27 pounds per day (see **Table 3.2-9, Estimated Project Daily Emissions at Buildout**). Operational area source emissions consist of emissions associated with architectural coatings (e.g., interior and exterior paints), consumer products (e.g., household cleaning products, adhesives, sealants, caulking, waxes, polishes, paint removers, degreasers, herbicides, insecticides); and landscaping equipment. Feasible mitigation measures are not available to reduce operational area source emissions for several reasons. With regard to architectural coatings, the current ROC content limits for architectural coatings contained in VCAPCD Rule 74.2 are consistent with the SCAQMD Rule 1113 ROC content limits, which the VCAPCD determined are the best available control technology (i.e., the most effective emission control device, emission limit, or technique that has been required or used for this type of emission source).<sup>24</sup> With regard to consumer products and landscaping equipment, the City does not have the authority to regulate future residents' use of certain types of

<sup>24</sup> VCAPCD. 2020. "Appendix B – Staff Report – Proposed Amendments to Rule 74.2, Architectural Coatings." August 2020. <http://www.vcapcd.org/pubs/Rules/742/2020/Rule-74-2-Staff-Report-Rule-August-2020-2.pdf>, accessed December 3, 2021.

consumer products or landscaping equipment through the Specific Plan. Therefore, no feasible mitigation measures are available to reduce the project's total operational ROC emissions below the VCAPCD significance threshold of 25 pounds per day. As a result, operational air quality impacts would be significant and unavoidable.

The following discussion addresses the potential human health impacts associated with significant and unavoidable emissions of ROC, which is a precursor to the criteria air pollutant of ozone. This discussion is provided to address concerns raised in the *Sierra Club v. County of Fresno (Friant Ranch; 2018)* decision regarding adequate disclosure of the potential human health effects from significant air quality impacts. The Supreme Court opinion in *Friant Ranch* requires projects with significant air quality impacts to "relate the expected adverse air quality impacts to likely health consequences or explain why it is not feasible at the time of drafting to provide such an analysis, so that the public may make informed decisions regarding the costs and benefits of the project."

In their amicus briefs on the *Friant Ranch* case, SCAQMD and San Joaquin Valley Air Pollution Control District (SJVAPCD) staff state that it is not feasible with existing modeling techniques to precisely correlate a project's impacts related to ROC, NO<sub>x</sub>, and particulate matter emissions to quantifiable health impacts, unless the emissions are sufficiently high to use a regional modeling program, which is not the case for the proposed project (Brief for South Coast Air Quality Management District 2018; Brief for San Joaquin Valley Unified Air Pollution Control District 2018).<sup>25</sup> In addition, the SCAQMD and SJVAPCD amicus briefs note that ozone formation is not linearly related to ROC and NO<sub>x</sub> emissions. Therefore, ozone impacts vary depending on the location of the emissions, the location of other precursor emissions, meteorology, and seasonal impacts and because ozone is formed later and downwind from the actual precursor emissions. Therefore, a general description of the adverse health impacts resulting from the project's ROC emissions is the full extent of information that can be provided at this time.

The increase in ROC emissions and corresponding increase in ozone concentrations in Moorpark, and more broadly in Ventura County, as a result of project operation would contribute to adverse health impacts that are already occurring due to the region's nonattainment status for this pollutant. As summarized in **Table 3.2-2, Criteria Pollutants Summary of Common Sources and Effects**, in **Section 3.2.1.2**, the health impacts of ozone include irritation and inflammation of mucous membranes and lung airways; wheezing,

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<sup>25</sup> Brief for South Coast Air Quality Management District as Amicus Curiae Supporting Respondents, *Sierra Club, Revive the San Joaquin, and League of Women Voters Fresno v. County of Fresno and Friant Ranch, L.P.* (2018), 6 Cal.5th 502, Case No. S219783.

Brief for San Joaquin Valley Unified Air Pollution Control District as Amicus Curiae Supporting Respondents, *Sierra Club, Revive the San Joaquin, and League of Women Voters Fresno v. County of Fresno and Friant Ranch, L.P.* (2018), 6 Cal.5th 502, Case No. S219783.

coughing, and pain when inhaling deeply; decreased lung capacity; and aggravation of lung and heart problems.