

AIR QUALITY

SUMMARY

Implementation of the proposed project would not conflict with or obstruct implementation of the 2016 AQMP.

Temporary, construction-related daily emissions generated during the project grading phase would exceed 25 pounds per day; therefore, as recommended by the VCAPCD, this is identified as potentially significant impact. Mitigation is identified to reduce these emissions to the maximum extent feasible. The average daily emissions associated with project operational activities would not exceed the thresholds of significance recommended by the VCAPCD.

Implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations of carbon monoxide. However, implementation of the proposed project could expose sensitive receptors to substantial pollutant concentrations of construction-related fugitive dust and toxic air contaminants. Mitigation is identified to reduce these impacts to less than significant levels.

Implementation of the proposed project would not result in other emissions that create objectionable odors adversely affecting a substantial number of people.

ENVIRONMENTAL SETTING

Air Quality Background

The City of Camarillo is located within the South Central Coast Air Basin (Basin), which includes all of Ventura, Santa Barbara, and San Luis Obispo Counties. The regional climate within the Basin is considered semi-arid and is characterized by warm summers, mild winters, infrequent seasonal rainfall, moderate daytime onshore breezes, and moderate humidity. The air quality within the Basin is primarily influenced by a wide range of emissions sources – (population centers, heavy vehicular traffic, and industry) – and meteorology.

Air pollutant emissions within the Basin are generated by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at an identified location and are usually associated with manufacturing and industry. Examples are boilers or combustion equipment that produces electricity or generate heat. Area sources are widely distributed and produce many small emissions. Examples of area sources include residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and consumer products such as barbecue lighter fluid and hair spray. Mobile sources refer to emissions from motor vehicles, including

tailpipe and evaporative emissions, and are classified as either on-road or off-road. On-road sources may be legally operated on roadways and highways. Off-road sources include aircraft, ships, trains, agricultural equipment, racecars, and self-propelled construction equipment. Mobile sources account for the majority of the air pollutant emissions within the Basin. Air pollutants can also be generated by the natural environment such as when fine dust particles are pulled off the ground surface and suspended in the air during high winds.

Both the federal and state governments establish ambient air quality standards for outdoor concentrations of various pollutants in order to protect public health. The federal and state standards are set at levels at which concentrations could be generally harmful to human health and welfare, and to protect the most sensitive persons from illness or discomfort with a margin of safety. Applicable standards are identified below.

Potential Health Effects of Air Pollutants

Certain air pollutants are recognized to cause notable health problems and consequential damage to the environment either directly or in reaction with other pollutants, due to their presence in elevated concentrations in the atmosphere. Such pollutants are identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in the prevalent air quality.

The air pollutants for which national and State standards are promulgated and which are most relevant to air quality planning and regulation in the Basin include ozone, carbon monoxide (CO), respirable particulate matter (PM₁₀), fine particulate matter (PM_{2.5}), sulfur dioxide (SO₂), and lead. In addition, toxic air contaminants and greenhouse gas (GHG) emissions are of concern in the Basin. Each of these is described briefly below.

Ozone is a gas that is formed when reactive organic compounds (ROC) and nitrogen oxides (NO_x)—both byproducts of internal combustion engine exhaust—undergo slow photochemical reactions in the presence of sunlight. Ozone concentrations are generally highest during the summer months when direct sunlight, light wind, and warm temperature conditions are favorable.

An elevated level of ozone irritates the lungs and breathing passages, causing coughing, and pain in the chest and throat thereby increasing susceptibility to respiratory infections and reducing the ability to exercise. Effects are more severe in people with asthma and other respiratory ailments. Long-term exposure may lead to scarring of lung tissue and may lower the lung efficiency.

Carbon Monoxide is a colorless, odorless gas produced by the incomplete combustion of fuels. CO concentrations tend to be the highest during the winter morning, with little to no wind, when surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines—unlike ozone—and motor vehicles operating at slow speeds are the primary source

of CO in the Basin, the highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

Elevated concentrations of CO weaken the heart's contractions and lower the amount of oxygen carried by the blood. It is especially dangerous for people with chronic heart disease. Inhalation of moderate levels of carbon monoxide can cause nausea, dizziness, and headaches, and can be fatal at high concentrations.

Respirable Particulate Matter (PM₁₀) and **Fine Particulate Matter** (PM_{2.5}) consists of extremely small, suspended particles or droplets 10 microns and 2.5 microns or smaller in diameter. Some sources of particulate matter, like pollen and windstorms, are naturally occurring. In agricultural areas such as Ventura County, large amount of airborne particulates are generated by plowing and other field work. However, in populated areas, most particulate matter is caused by road dust, diesel soot, combustion products, abrasion of tires and brakes, and construction activities.

The human body naturally prevents the entry of larger particles into the body. However, PM₁₀ and even smaller PM_{2.5} are trapped in the nose, throat, and upper respiratory tract. These small particulates enter the body and could potentially aggravate existing heart and lung diseases, change the body's defenses against inhaled materials, and damage lung tissue. The elderly, children, and those with chronic lung or heart disease are most sensitive to PM₁₀ and PM_{2.5}. Lung impairment can persist for two to three weeks after exposure to high levels of particulate matter. Some types of particulate could become toxic after inhalation due to the presence of certain chemicals and their reaction with internal body fluids.

Nitrogen Dioxide (NO₂) is byproduct of fuel combustion. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), which reacts quickly to form NO₂, creating the mixture of NO and NO₂ commonly called NO_x. NO₂ absorbs blue light and its result is a brownish-red cast to the atmosphere and reduced visibility. NO₂ also contributes to the formation of PM₁₀.

Major sources of NO_x include power plants, large industrial facilities, and motor vehicles. Nitrogen oxides irritate the nose and throat. It increases susceptibility to respiratory infections, especially in people with asthma. The principal concern of NO_x is as a precursor to the formation of ozone.

Sulfur Dioxide (SO₂) is a colorless, extremely irritating gas or liquid. It enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries.

Major sources of SO₂ include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of sulfur dioxide aggravate lung diseases, especially bronchitis. It also constricts the breathing passages, especially in asthmatics and people involved in moderate to heavy exercise. Sulfur dioxide potentially causes wheezing, shortness of breath, and coughing. High levels of

particulate appear to worsen the effect of sulfur dioxide, and long-term exposures to both pollutants leads to higher rates of respiratory illness.

Lead occurs in the atmosphere as particulate matter. The combustion of leaded gasoline is the primary source of airborne lead in the Basin. The use of leaded gasoline is no longer permitted for on-road motor vehicles so most such combustion emissions are associated with off-road vehicles such as racecars. Other sources of lead include the manufacturing and recycling of batteries, paint, ink, ceramics, ammunition, and secondary lead smelters.

Lead affects the brain and other parts of the body's nervous system. Exposure to lead in very young children impairs the development of the nervous system, kidneys, and blood forming processes in the body.

Toxic Air Contaminants (TACs) refer to a diverse group of air pollutants that can affect human health, but have not had ambient air quality standards established for them. This is not because they are fundamentally different from the pollutants discussed above, but because their effects tend to be local rather than regional.

Other pollutants of concern in Ventura County include San Joaquin Valley Fever, odors, and fugitive dust. Each of these is described briefly below.

San Joaquin Valley Fever (formally known as Coccidioidomycosis) is an infectious disease caused by the fungus *Coccidioides immitis*. San Joaquin Valley Fever is also known as Valley Fever, Desert Fever, or Cocci. 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 such as fire and earthquakes. The Valley Fever fungus tends to be found at the base of hillsides, in virgin, undisturbed soil. It usually grows in the top few inches of soil, but can grow down to 12 inches. The fungus does not survive well in highly populated areas because there is not usually enough undisturbed soil for the fungus to grow. Additionally, the fungus is not likely to be found in soil that has been or is being cultivated and fertilized. This is because manmade fertilizers, such as ammonium sulfate, enhance the growth of the natural microbial competitors of the Valley Fever fungus. Infection is most frequent during summers that follow a rainy winter or spring, especially after wind and dust storms. Valley Fever infection is common only in arid and semiarid areas of the Western Hemisphere. In the United States, it is mostly found from Southern California to southern Texas. In Ventura County, the Valley Fever fungus is most prevalent in the county's dry, inland regions such as Simi Valley, Piru, and Fillmore.

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. A small percentage, less than one percent, die as a result of the disease.

The average number of reported new cases of Valley Fever in Ventura County before 1994 was 40 per year. In 1994, the year of the Northridge earthquake, the number of reported new cases of Valley Fever was 243. This increase was attributed to the great quantities of airborne dust generated by the Northridge earthquake. Since 1995, the number of reported cases has been comparable to the average before 1994. However, the actual number of cases may be much higher because Valley Fever is often misdiagnosed as the flu and not reported by physicians. Cases of Valley Fever recently increased in Ventura County following the Thomas Fire in 2017 and the Woolsey Fire in 2018.

Odors are substances in the air that pose a nuisance to nearby land uses such as residences, schools, daycare centers, and hospitals. Odors are typically not a health concern, but can interfere with the use and enjoyment of nearby property.

Odors may be generated by a wide variety of sources. The following are examples of facilities and operations that may generate significant odors:

- Wastewater treatment facilities
- Sanitary landfills
- Transfer stations
- Composting facilities
- Asphalt batch plants
- Painting and coating operations
- Fiberglass operations
- Food processing facilities
- Feed lots/ dairies
- Petroleum extraction, transfer, processing, and refining operations and facilities
- Chemical manufacturing operations and facilities
- Rendering plants

Regulatory Setting

Air quality within the Basin 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 a variety of programs. The agencies responsible for improving the air quality within the Basin are discussed below.

Federal Regulations

The federal Clean Air Act (CAA) establishes national ambient air quality standards. Under the CAA, the U.S. Environmental Protection Agency (U.S. EPA) is responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. It regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. The U.S. EPA also has jurisdiction over emissions sources outside state waters (outer continental shelf), and establishes various emissions standards for vehicles sold in states other than California.

As part of its enforcement responsibilities under the CAA, the U.S. EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs within the timeframe identified in the SIP.

California Regulations

The California Clean Air Act (CCAA) requires all areas of the state to achieve and maintain the California Ambient Air Quality Standards (CAAQS) by the earliest practicable date. The California Air Resources Board (ARB), a part of the California Environmental Protection Agency, is responsible for the coordination and administration of both federal and State air pollution control programs within California. In this capacity, the ARB conducts research, sets the CAAQS, compiles emission inventories, develops suggested control measures, provides oversight of local programs, and prepares the SIP. The ARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hair spray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. Appendix E to this EIR includes the CAAQS currently in effect for each of the criteria pollutants as well as other pollutants recognized by the State. As shown in Appendix E, the CAAQS includes more stringent standards than the national ambient air quality standards.

Although not originally intended to specifically reduce air pollutant emissions, California Code of Regulations (CCR) Title 24 Part 6: California's Energy Efficiency Standards for Residential and Nonresidential Buildings, was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. Since then, Title 24 has been amended with a recognition that energy-efficient buildings require less electricity and reduce fuel consumption, which in turn decreases GHG emissions. The current 2019 Title 24 standards (effective as of January 1, 2020) were adopted to respond, amongst other reasons, to the requirements of AB 32. Specifically, new development projects constructed within California after January 1, 2020 are subject to the mandatory planning and design, energy efficiency, water efficiency and conservation, material conservation and resources efficiency, and environmental quality measures of the California Green Building Standards (CALGreen) Code (California

Code of Regulations, Title 24, Part 11). The indoor and outdoor water use standards of the CALGreen Code are already addressed by the Camrosa Water District's Water Conservation Ordinance. Key provisions of the CALGreen Code that apply to the type of new residential and non-residential developments proposed for the project site are as follows:

Residential Uses

- Division 4.1 - Planning and Design
 - Section 4.106 - Site Development
 - 4.106.4 Electric vehicle (EV) charging for new construction. New construction shall comply with Section 4.106.4.1, 4.106.4.2, or 4.106.4.3, to facilitate future installation and use of EV chargers. Electric vehicle supply equipment (EVSE) shall be installed in accordance with the California Electrical Code, Article 625.
 - 4.106.4.1 New one- and two-family dwellings and townhouses with attached garages. For each dwelling unit, install a listed raceway to accommodate a dedicated 208/240-volt branch circuit. The raceway shall not be less than trade size 1 (nominal 1-inch inside diameter). The raceway shall originate at the main service or sub panel and shall terminate into a listed cabinet, box or other enclosure in close proximity to the proposed location of an EV charger. Raceways are required to be continuous at enclosed, inaccessible or concealed areas and spaces. The service panel and/or sub panel shall provide capacity to install a 40-ampere minimum dedicated branch circuit and space(s) reserved to permit installation of a branch circuit overcurrent protective device.
- Division 4.4 - Material Conservation and Resource Efficiency
 - Section 4.408 - Construction Waste Reduction, Disposal and Recycling
 - 4.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with either Section 4.408.2, 4.408.3 or 4.408.4, or meet a more stringent local construction and demolition waste management ordinance.
 - 4.408.2 Construction waste management plan. Submit a construction waste management plan in conformance with Items 1 through 5. The construction waste management plan shall be updated as necessary and shall be available during construction for examination by the enforcing agency.
 1. Identify the construction and demolition waste materials to be diverted from disposal by recycling, reuse on the project or salvage for future use or sale.

2. Specify if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
 3. Identify diversion facilities where the construction and demolition waste material will be taken.
 4. Identify construction methods employed to reduce the amount of construction and demolition waste generated.
 5. Specify that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, or both.
- 4.408.3 Waste management company. Utilize a waste management company, approved by the enforcing agency, which can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with Section 4.408.1.
 - 4.408.4 Waste stream reduction alternative. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills which do not exceed 3.4 pounds per square foot of the building area, shall meet the minimum 65 percent construction waste reduction requirement in Section 4.408.1.
 - 4.408.4.1 Waste stream reduction alternative. Projects that generate a total combined weight of construction and demolition waste disposed of in landfills which do not exceed 2 pounds per square foot of the building area, shall meet the minimum 65 percent construction waste reduction requirement in Section 4.408.1.
 - Section 4.410 - Building Maintenance and Operation
 - 4.410.1 Operation and maintenance manual. At the time of final inspection, a manual, compact disc, web-based reference or other media acceptable to the enforcing agency which includes all of the following shall be placed in the building:
 1. Directions to the owner or occupant that the manual shall remain with the building throughout the lifecycle of the structure.
 2. Operation and maintenance instructions for the following:
 - a. Equipment and appliances, including water saving devices and systems, HVAC systems, photovoltaic systems, electric vehicle chargers, water-heating systems and other major appliances and equipment.
 - c. Space conditioning systems, including condensers and air filters.

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3. Information from local utility, water and waste recovery providers on methods to reduce resource consumption, including recycle programs and locations.
 4. Public transportation and/or carpool options available in the area.
 9. Information about state solar energy and incentive programs available.
 10. A copy of all special inspection verifications required by the enforcing agency or this code.
- Division 4.5 - Environmental Quality
 - Section 4.504 - Pollutant Control
 - 4.504.2 Finish material pollutant control. Finish materials shall comply with this section.
 - 4.504.2.1 Adhesives, sealants and caulks. Adhesives, sealants and caulks used in the project shall meet the requirements of the following standards unless more stringent local or regional air pollution or air quality management district rules apply:
 1. Adhesives, adhesive bonding primers, adhesive primers, sealants, sealant primers, and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable or SCAQMD Rule 1168 VOC limits, as shown in Table 4.504.1 or 4.504.2, as applicable. Such products shall also comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below.
 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than 1 pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.
 - 4.504.2.2 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 4.504.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 4.504.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-high Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-high Gloss VOC limit in Table 4.504.3 shall apply.

- 4.504.2.3 Aerosol paints and coatings. Aerosol paints and coatings shall meet the Product-weighted MIR Limits for ROC in Section 94522(a)(2) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(e)(1) and (f)(1) of California Code of Regulations, Title 17, commencing with Section 94520.

Nonresidential Uses

- Division 5.1 - Planning and Design
 - Section 5.106 - Site Development
 - 5.106.12 Shade Trees. Shade trees shall be planted to comply with Sections 5.106.12.1, 5.106.12.2, and 5.106.12.3. Percentages shown shall be measured at noon on the summer solstice. Landscape irrigation necessary to establish and maintain tree health shall comply with Section 5.304.6.
 - 5.106.12.1 Surface parking areas. Shade tree plantings, minimum #10 container size or equal shall be installed to provide shade over 50 percent of the parking area within 15 years.
- Division 5.4 - Material Conservation and Resource Efficiency
 - Section 5.408 - Construction Waste Reduction, Disposal and Recycling
 - 5.408.1 Construction waste management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste in accordance with either Section 5.408.1.1, 5.408.1.2 or 5.408.1.3; or meet a local construction and demolition waste management ordinance, whichever is more stringent.
 - 5.408.1.1 Construction waste management plan. Where a local jurisdiction does not have a construction and demolition waste management ordinance that is more stringent, submit a construction waste management plan that:
 1. Identifies the construction and demolition waste materials to be diverted from disposal by efficient useage, recycling, reuse on the project or salvage for future use or sale.
 2. Determines if construction and demolition waste materials will be sorted on-site (source-separated) or bulk mixed (single stream).
 3. Identifies diversion facilities where the construction and demolition waste material will be taken.

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4. Specifies that the amount of construction and demolition waste materials diverted shall be calculated by weight or volume, but not by both.
- 5.408.1.2 Waste management company. Utilize a waste management company that can provide verifiable documentation that the percentage of construction and demolition waste material diverted from the landfill complies with this section.
 - 5.408.1.3 Waste stream reduction alternative. The combined weight of new construction disposal that does not exceed two pounds per square foot of the building area shall meet the minimum 65 percent minimum requirement as approved by the enforcing agency.
 - 5.408.3 Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.
- Section 5.410 - Building Maintenance and Operation
 - 5.410.1 Recycling by occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals or meet a lawfully enacted local recycling ordinance, if more restrictive.
- Division 5.5 - Environmental Quality
 - Section 5.504 - Pollutant Control
 - 5.504.4 Finish material pollutant control. Finish materials shall comply with Section 5.504.4.1 through 5.504.4.6.
 - 5.504.4.1 Adhesives, sealants and caulks. Adhesives, sealants and caulks used on the project shall meet the requirements of the following standards:
 1. Adhesives, adhesive bonding primers, sealants, sealant primers and caulks shall comply with local or regional air pollution control or air quality management district rules where applicable, or SCAQMD Rule 1168 VOC limits, as shown in Tables 5.504.4.1 and 5.504.4.2. Such products shall also comply with the Rule 1168 prohibition on the use of certain toxic compounds (chloroform, ethylene dichloride, methylene chloride, perchloroethylene and trichloroethylene), except for aerosol products, as specified in Subsection 2 below.
 2. Aerosol adhesives, and smaller unit sizes of adhesives, and sealant or caulking compounds (in units of product, less packaging, which do not weigh more than one pound and do not consist of more than 16 fluid ounces) shall comply with statewide VOC

standards and other requirements, including prohibitions on use of certain toxic compounds, of California Code of Regulations, Title 17, commencing with Section 94507.

- 5.504.4.3 Paints and coatings. Architectural paints and coatings shall comply with VOC limits in Table 1 of the ARB Architectural Suggested Control Measure, as shown in Table 5.504.4.3, unless more stringent local limits apply. The VOC content limit for coatings that do not meet the definitions for the specialty coatings categories listed in Table 5.504.4.3 shall be determined by classifying the coating as a Flat, Nonflat or Nonflat-high Gloss coating, based on its gloss, as defined in Subsections 4.21, 4.36, and 4.37 of the 2007 California Air Resources Board, Suggested Control Measure, and the corresponding Flat, Nonflat or Nonflat-high Gloss VOC limit in Table 5.504.4.3 shall apply.
 - 4.504.4.3.1 Aerosol paints and coatings. Aerosol paints and coatings shall meet the PWMIR Limits for ROC in Section 94522(a)(3) and other requirements, including prohibitions on use of certain toxic compounds and ozone depleting substances, in Sections 94522(c)(2) and (d) (2) of California Code of Regulations, Title 17, commencing with Section 94520.

Diesel engines emit a complex mixture of pollutants, including very small carbon particles, or "soot" coated with numerous organic compounds, known as diesel particulate matter (DPM). Diesel exhaust also contains more than 40 cancer-causing substances, most of which are readily adsorbed onto the soot particles. In 1998, the ARB identified DPM as a TAC based on its potential to cause cancer.

Regional Regulations

The Ventura County Air Pollution Control District (VCAPCD) is the agency principally responsible for comprehensive air pollution control in the Ventura County portion of the Basin. To that end, the VCAPCD, a regional agency, works directly with the Southern California Association of Governments (SCAG), the Ventura County Transportation Commission, and local governments, and cooperates actively with all State and federal government agencies. The VCAPCD develops rules and regulations, establishes permitting requirements, inspects emissions sources, and enforces such measures through educational programs or fines, when necessary.

The VCAPCD is directly responsible for reducing emissions from stationary (area and point), mobile, and indirect sources. It has responded to this requirement by preparing a series of Air Quality Management Plans (AQMPs). The most recent of these was adopted by the Governing Board of the VCAPCD on February 14, 2017. This AQMP, referred to as the 2016 AQMP, was prepared to comply with the federal and State Clean Air Acts and amendments, to accommodate growth, to reduce the high pollutant levels of pollutants in the Basin, to meet federal and State air quality standards, and to minimize the fiscal impact that pollution control measures have on the local economy. It identifies the control measures that will be implemented to reduce major sources of pollutants. These planning efforts have substantially decreased

the population's exposure to unhealthful levels of pollutants, even while substantial population growth has occurred within the County.

The future air quality levels projected in the 2016 AQMP are based on several assumptions. For example, the VCAPCD assumes that general new development within the County will occur in accordance with population growth and transportation projections identified by County staff.

Although the VCAPCD is responsible for regional air quality planning efforts, it does not have the authority to directly regulate the air quality issues associated with plans and new development projects within the county. Instead, the VCAPCD has used its expertise and prepared the Ventura County Air Quality Assessment Guidelines to indirectly address these issues in accordance with the projections and programs of the Air Quality Management Plan (AQMP). The purpose of the Ventura County Air Quality Assessment Guidelines is to assist lead agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects and plans proposed in the county. Specifically, the Ventura County Air Quality Assessment Guidelines explains the procedures that the VCAPCD recommends be followed during environmental review processes required by CEQA. The Ventura County Air Quality Assessment Guidelines provides direction on how to evaluate potential air quality impacts, how to determine whether these impacts are significant, and how to mitigate these impacts. The VCAPCD intends that by providing this guidance, the air quality impacts of plans and development proposals will be analyzed accurately and consistently throughout the County, and adverse impacts will be minimized.

Local Air Quality Control

Local jurisdictions, such as the City of Camarillo, have the authority and responsibility to reduce air pollution through its police powers and decision-making authority. Specifically, the City is responsible for the assessment and mitigation of air emissions resulting from its land use decisions. The City of Camarillo is also responsible for the implementation of transportation control measures as outlined in the AQMP. Examples of such measures include bus turnouts, energy-efficient streetlights, and synchronized traffic signals.

In accordance with CEQA and the CEQA review process, the City assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, and monitors and enforces implementation of such mitigation. The City does not, however, have the expertise to develop plans, programs, procedures, and methodologies to ensure that air quality within the City and region will meet federal and state standards. Instead, the City relies upon the expertise of the VCAPCD and utilizes the Ventura County Air Quality Assessment Guidelines as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

Existing Regional Air Quality

Ambient air quality is determined primarily by the type and amount of pollutants emitted into the atmosphere, as well as the size, topography, and meteorological conditions of a geographic area. The Basin has low mixing heights and light winds, which help to accumulate air pollutants. Exhaust emissions from mobile sources generate the majority of ROC, NO_x, and CO in the Basin and Ventura County. Area-wide sources generate the most airborne particulates (i.e., PM₁₀ and PM_{2.5}).

Measurements of ambient concentrations of the criteria pollutants are used by the U.S. EPA and the ARB to assess and classify the air quality of each regional air basin, county, or, in some cases, a specific urbanized area. The classification is determined by comparing actual monitoring data with national and State standards. If a pollutant concentration in an area is lower than the standard, the area is classified as being in “attainment” for that pollutant. If the pollutant concentration meets or exceeds the standard (depending on the specific standard for the individual pollutants), the area is classified as a “nonattainment” area.¹ If there is not enough data available to determine whether the standard is exceeded in an area, the area is designated “unclassified.”

The U.S. EPA and the ARB use different standards for determining whether an air basin or county is an attainment area. Under national standards, Ventura County is currently classified as a moderate nonattainment area for 8-hour ozone concentrations. Ventura County is in attainment or designated as unclassified for all other pollutants under national standards. Under state standards, Ventura County is designated as a nonattainment area for ozone, PM₁₀, PM_{2.5}, and an attainment area for all other pollutants.

Existing Local Air Quality

The VCAPCD monitors ambient air pollutant concentrations through a series of monitoring stations located throughout the County. These stations are located in El Rio, Ojai, Piru, Simi Valley, and Thousand Oaks. The closest monitoring station to the City of Camarillo and most representative of the ambient air quality in the City is the El Rio station.

¹ National Ambient Air Quality Standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. For PM₁₀, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average above the standard is less than one. For PM_{2.5}, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.

California Ambient Air Quality Standards for ozone, CO, SO₂ (1- and 24-hour), NO₂, PM₁₀, PM_{2.5}, and visibility reducing particles are values that are not to be exceeded. Standards for all other pollutants are not to be equaled or exceeded.

Table 5.2-1 identifies the national and state ambient air quality standards for relevant air pollutants along with the ambient pollutant concentrations that have been measured at the El Rio monitoring station through the period 2016 to 2018, which is the most recent data available from the ARB.

TABLE 5.2-1 - LOCAL AMBIENT AIR QUALITY

Emissions Source	Year		
	2016	2017	2018
Ozone			
Maximum 1-hour concentration measured	0.084 ppm	0.084 ppm	0.072 ppm
Days exceeding state 0.090 ppm 1-hour standard	0	0	0
Maximum 8-hour concentration measured	0.071 ppm	0.072 ppm	0.062 ppm
Days exceeding national and state 0.070 ppm 8-hour standard	1	1	0
Respirable Particulate Matter (PM ₁₀)			
Maximum 24-hour concentration measured	105.0 $\mu\text{g}/\text{m}^3$	287.9 $\mu\text{g}/\text{m}^3$	209.0 $\mu\text{g}/\text{m}^3$
Estimated days exceeding national 150 $\mu\text{g}/\text{m}^3$ 24-hour standard	0	1	2
Estimated days exceeding state 50 $\mu\text{g}/\text{m}^3$ 24-hour standard	*	29.5	21.0
Fine Particulate Matter (PM _{2.5})			
Maximum 24-hour concentration measured	22.7 $\mu\text{g}/\text{m}^3$	81.3 $\mu\text{g}/\text{m}^3$	41.2 $\mu\text{g}/\text{m}^3$
Estimated days exceeding national 35 $\mu\text{g}/\text{m}^3$ 24-hour standard	0	4.1	1
Nitrogen Dioxide (NO ₂)			
Maximum 1-hour concentration measured	33.0 ppb	36.0 ppb	49.0 ppb
Days exceeding national 100 ppb 1-hour standard	0	0	0

ppm = parts per million by volume.

$\mu\text{g}/\text{m}^3$ = micrograms per cubic meter.

* = insufficient data to determine the value.

ppb = parts per billion by volume.

Source of table data: California Air Resources Board, 2020.

Existing land-uses surrounding the golf course property are limited to residential, commercial, office, and agricultural uses. Air pollutant emissions are generated in the local vicinity by stationary sources and mobile sources, primarily automobile and truck traffic. Motor vehicles are the primary source of pollutants in the local vicinity.

Existing Project Site Emissions

Camarillo Springs Golf Course is a 182-acre, privately-owned facility that has been developed and operational for more than 45 years. The property is currently developed with an 18-hole golf course, clubhouse facility, driving range, maintenance buildings, and associated structures.

The daily operational emissions associated with the existing golf course have been estimated utilizing the California Emissions Estimator Model (CalEEMod v. 2016.3.2) and the trip generation data from the project Traffic and Circulation Study as recommended by the VCAPCD. The estimated average existing daily emissions associated with the golf course are presented in Table 5.2-2.

TABLE 5.2-2 - ESTIMATED EXISTING DAILY OPERATIONAL EMISSIONS

Emissions Source	Emissions in Pounds Per Day					
	ROC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area Sources	<0.1	<0.1	<0.1	0.0	<0.1	<0.1
Energy Sources	0.0	0.0	0.0	0.0	0.0	0.0
Mobile Sources	0.8	2.8	8.1	<0.1	2.1	0.6
Total Emissions	0.8	2.8	8.1	<0.1	2.1	0.6

CalEEMod result sheets are provided in Appendix E.

THRESHOLDS OF SIGNIFICANCE

In accordance with Appendix G to the State CEQA Guidelines, a project could have a potentially 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.
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

The thresholds discussed below are currently recommended by the VCAPCD in the Ventura County Air Quality Assessment Guidelines to translate the State CEQA Guidelines thresholds into numerical values or performance standards. As discussed previously in this EIR section, the City of Camarillo utilizes the

Ventura County Air Quality Assessment Guidelines as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

Consistency with the 2016 AQMP

For general development projects, the VCAPCD recommends that consistency with the current AQMP be determined by comparing the population generated by the project to the population projections used in the development of the AQMP. Inconsistency with these projections could jeopardize attainment of the air quality conditions projected in the AQMP and is considered a significant impact.

Cumulatively Considerable Increases in Emissions

Operational Emissions – Daily Regional Emissions of ROC and NO_x

The VCAPCD currently recommends that projects located everywhere in Ventura County outside of the Ojai Planning Area with operational emissions that exceed any of the following emissions thresholds should be considered to have significant individual project and cumulatively considerable impacts:

- 25 pounds per day of ROC
- 25 pounds per day of NO_x

Construction Period Emissions

Page 5-3 of the Ventura County Air Quality Assessment Guidelines states that the construction-related emissions are not counted towards the two 25 pounds per day thresholds for ROC and NO_x since these emissions are temporary. Instead, the VCAPCD recommends that construction emissions be quantified and mitigated if the emissions would exceed one or both of the 25 pounds per day thresholds for ROC and NO_x. If all appropriate emissions control measures recommended by the Ventura County Air Quality Assessment Guidelines are implemented for a project, then construction emissions are not considered significant.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

The VCAPCD currently recommends that project-specific, localized, and non-ozone impacts to sensitive receptors be considered significant if any of the following occur:

- The project generates increased emissions of construction-related and operational emissions of fugitive dust and does not implement fugitive dust programs consistent with VCAPCD rules and regulations.
- The project could expose people to San Joaquin Valley Fever fungus.

- The project generates an increase in local traffic volumes that causes localized CO concentrations at sensitive receptors near congested intersections to exceed State ambient air quality standards.
- The project generates an increase in toxic air contaminants that causes a lifetime probability of contracting cancer of more than 10 in one million or results in a Hazard Index of greater than 1.

PROJECT IMPACTS AND MITIGATION MEASURES

Consistency with the 2016 AQMP

Threshold: Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?

Impact: Implementation of the proposed project would not conflict with or obstruct implementation of the 2016 AQMP.

Impact Analysis

As discussed in the Population and Housing section of this EIR, the City of Camarillo has an estimated January 1, 2020 population of approximately 70,261 persons. Assuming that each of the proposed age-restricted (55+) single family detached dwelling units has two residents, the project would increase the City's population by up to 496 persons. This is a conservative estimate since some of the homes would be expected to be occupied by only one person. When added to the existing population of Camarillo, the total of 70,757 residents would not exceed SCAG's 2040 growth forecast of 79,900 persons for the City of Camarillo. Therefore, the proposed project would not directly induce substantial population growth within the City of Camarillo that has not already been anticipated by the City and SCAG. Therefore, the proposed project would not conflict with or obstruct implementation of the applicable air quality plan and the potential impact would be less than significant.

Cumulatively Considerable Increases in Emissions

Threshold: Would the proposed project 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?

Impact: Temporary, construction-related daily emissions of NO_x generated during the project grading phase would exceed 25 pounds per day; therefore, as recommended by the VCAPCD, this is identified as a potentially significant impact. Mitigation measures are identified to reduce these emissions to the maximum extent feasible. The average daily emissions associated with project operational activities would not exceed the thresholds of significance recommended by the VCAPCD.

Impact Analysis

Construction-Related Emissions

The analysis of mass daily regional construction emissions has been prepared utilizing CalEEMod as recommended by the VCAPCD. The default construction dates in CalEEMod were changed to reflect the proposed construction schedule. The default equipment and amounts listed in CalEEMod for the grading and infrastructure phases were modified to reflect the equipment anticipated by the applicant. The changes to the default equipment are identified in Table 5.2-3.

TABLE 5.2-3 - PROJECT CONSTRUCTION EQUIPMENT ASSUMPTIONS

Construction Phase	Equipment	CalEEMod Default	Project Assumptions
Grading	Excavators	2	1
	Graders	1	2
	Rubber Tired Dozers	1	2
	Scrapers	2	16
	Tractors/Loaders/Backhoes	2	7
	Off-Highway Trucks	0	5
Infrastructure	Excavators	0	1
	Scrapers	0	1
	Tractors/Loaders/Backhoes	0	1

In applying the Ventura County Air Quality Assessment Guidelines, “construction-related ROC and NO_x emissions are not counted towards the ROC and NO_x significance thresholds, since these emissions are only temporary.” (See Ventura County Air Quality Assessment Guidelines, p. 7-5.) However, “construction-related emissions should be mitigated if estimates of ROC and NO_x emissions from the heavy-duty construction equipment anticipated to be used for a particular project exceed... the 25 pounds per day threshold...” (*Id.* at p. 5-4.) However, the Ventura County Air Quality Assessment Guidelines do not require that mitigation bring construction emissions to below 25 pounds per day – only that mitigation reduce construction emissions to the extent feasible. The Ventura County Air Quality Assessment Guidelines acknowledge that “there are very few feasible measures available to reduce these emissions.”

The mass daily construction-related emissions for the proposed project are shown in Table 5.2-4. As shown, the maximum daily emissions of NO_x generated during the site grading phase would exceed the 25 pounds per day. The emissions generated during the other phases of development would not exceed

any recommended thresholds of significance. Thus, construction impacts relating to NO_x are potentially significant.

TABLE 5.2-4 - ESTIMATED MASS DAILY CONSTRUCTION EMISSIONS

Emissions Source	Emissions in Pounds Per Day					
	ROC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Grading	22.7	246.9	162.9	0.4	28.6	16.6
Infrastructure	1.4	14.8	12.6	<0.1	0.6	0.6
Paving	2.8	11.2	14.9	<0.1	0.2	0.6
Building Construction	2.4	18.4	21.2	<0.1	1.3	1.2
Architectural Coatings	2.3	1.5	2.7	<0.1	0.4	0.2
Maximum Daily Emissions	22.7	246.9	162.9	0.4	28.6	16.6
VCAPCD Thresholds of Significance	25.0	25.0	NT	NT	NT	NT
Exceeds Thresholds?	No	Yes	No	No	No	No

The emissions shown in this table are the combined unmitigated on-site and off-site construction emissions totals shown in the CalEEMod results sheets for each phase. The building construction and architectural coatings emissions are for 2022, which is the higher of the five years that were calculated for these phases.

The CalEEMod calculations assume the standard statewide engine tiers for the construction equipment operating at the site. The calculations do not assume the use of or requirement for newer engines that meet more stringent USEPA standards. This provides a more conservative analysis of potential construction-related air pollutant emissions.

NT = The VCAPCD has not recommended a regional daily threshold of significance for these pollutants.

CalEEMod result sheets are provided in Appendix E.

Operational Emissions

Operational emissions generated by both stationary and mobile sources would result from normal day-to-day activities within the project site after occupation. Stationary area source emissions would be generated by the consumption of natural gas for space and water heating devices, the operation of landscape maintenance equipment, and the occasional application of architectural coatings. Mobile emissions would be generated by the motor vehicles traveling to and from the project site.

The analysis of daily operational emissions has been prepared utilizing CalEEMod as recommended by the VCAPCD and the assumption that the project would be completed and fully operational by 2027 (development in years later than 2027 may result in lower emissions). The results of these calculations are presented in Table 5.2-5. As shown, the proposed project would generate average daily operational

emissions that do not exceed the thresholds of significance recommended by the VCAPCD. This would be a less than significant impact.

TABLE 5.2-5 - ESTIMATED MASS DAILY OPERATIONAL EMISSIONS

Emissions Source	Emissions in Pounds Per Day					
	ROC	NO _x	CO	SO _x	PM ₁₀	PM _{2.5}
Area Sources	9.6	0.2	20.4	<0.1	0.1	0.1
Energy Sources	0.1	0.7	0.3	<0.1	0.1	0.1
Mobile Sources	1.8	6.4	20.1	0.1	9.2	2.5
Total Emissions	11.5	7.3	40.8	0.1	9.3	2.7
VCAPCD Thresholds of Significance	25.0	25.0	NT	NT	NT	NT
Significant Impact?	No	No	No	No	No	No

The operational emissions shown in this table are the mitigated overall operational emissions totals shown in the CalEEMod results sheets, which assume building energy efficiency as required by Title 24 and the CalGreen Code.

NT = The VCAPCD has not recommended a regional daily threshold of significance for these pollutants.

CalEEMod result sheets are provided in Appendix E.

Mitigation

As described above, the proposed project would result in temporary, construction-related impacts associated with NO_x emissions. All other emissions would be less than significant. The following mitigation measure is identified to reduce the construction-related NO_x emissions from heavy-duty construction equipment to the maximum extent feasible:

AQ-1 As recommended by the VCAPCD's Air Quality Assessment Guidelines, the project developer shall include in construction contracts the following control measures:

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

- Heavy equipment used for grading and utilities installation shall use engines with a minimum diesel rating of Tier 3.

Page 10 of the CalEEMod result sheets provided in Appendix E indicate that the use of Tier 3 engines would reduce the temporary construction-related daily emissions of NOx from 246.8 ppd to 170.6 ppd during the grading phase.

Mitigation Monitoring

The Department of Community Development shall review project construction contracts prior to issuance of grading permits to ensure that the contracts include the requirements of mitigation measure AQ-1.

Impact After Mitigation

As discussed previously, the Ventura County Air Quality Assessment Guidelines do not require that mitigation bring construction emissions to below 25 pounds per day – only that mitigation reduce construction emissions to the extent feasible. If all appropriate emissions control measures recommended by the Ventura County Air Quality Assessment Guidelines are implemented for a project, then construction emissions are not considered significant. Mitigation measure AQ-1 would reduce the construction-related NOx emissions from heavy-duty construction equipment to the maximum extent feasible. Therefore, mitigation measure AQ-1 would reduce the construction-related impact of the project to a less than significant level.

Exposure of Sensitive Receptors to Substantial Pollutant Concentrations

Threshold: Would the proposed project expose sensitive receptors to substantial pollutant concentrations?

Impact: Implementation of the proposed project would not expose sensitive receptors to substantial pollutant concentrations of carbon monoxide. However, implementation of the proposed project could expose sensitive receptors to substantial pollutant concentrations of construction-related fugitive dust and toxic air contaminants. Mitigation is identified to reduce these impacts to less than significant levels.

Impact Analysis

Fugitive Dust

Fugitive dust would be generated during project construction activities; primarily during the site grading phase. As shown previously in Table 5.2-4, the anticipated daily emissions of PM₁₀ would range from 0.2 ppd during construction paving activities to 28.6 ppd during grading activities. Also as shown in Table 5.2-4, the anticipated daily emissions of PM_{2.5} would range from 0.2 ppd during architectural coating activities and 16.6 ppd during grading activities. The VCAPCD does not recommend any thresholds of significance for fugitive dust emissions. Instead, the VCAPCD bases the determination of significance on

a consideration of the control measures to be implemented. If all appropriate emissions control measures recommended by the Ventura County Air Quality Assessment Guidelines are implemented for a project, then construction emissions are not considered significant. Further, fugitive dust emissions are addressed through VCAPCD Rule 55, which applies to any operation or disturbed surface area capable of generating fugitive dust. As such, Mitigation Measure AQ-2 has been identified to address any potentially significant impacts associated with fugitive dust and particulate matter emissions.

San Joaquin Valley Fever

The Ventura County Air Quality Assessment Guidelines state that there is no recommended threshold for a significant San Joaquin Valley Fever impact. (See Ventura County Air Quality Assessment Guidelines, p. 6-3.) However, listed below are factors that 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).
- Non-native population (i.e., out-of-area construction workers).

The majority of the project site is presently developed with an active golf course and, as discussed previously, the fungus is not likely to be found in soil that has been or is being cultivated and fertilized. This is because manmade fertilizers, such as ammonium sulfate, enhance the growth of the natural microbial competitors of the Valley Fever fungus. The area of the project site that has undeveloped land is located in the southern area of the site. This area would be excavated to provide soils for the proposed residential area and the boundary of the landscaped golf course in this area of the site would be expanded beyond its existent area. The soils in this area of the site are classified as HaG - Hambright very rocky loam, 15 to 75 percent slopes, HbF - Hambright rocky clay loam, 30 to 50 percent slopes, IrG - Igneous rock land, VaC - Vina loam, 2 to 9 percent slopes, VnC - Vina gravelly loam, 2 to 9 percent slopes, and VsC - Vina silty clay loam, 2 to 9 percent slopes. These are not sandy soils and the Hambright series are moderately acidic while the Vina series have a neutral pH. As such, they do not support the preferred environmental for Valley Fever spores and the potential risk to residents near the project site to be exposed to Valley Fever spores during earth moving activities at the project site is not considered to be potentially significant. The potential for dust containing Valley Fever spores to be generated during

construction would be controlled by the fugitive dust control requirements of VCAPCD Rule 55 and mitigation measure AQ-2.

Localized Carbon Monoxide Concentration

Traffic-congested roadways and intersections have the potential to generate localized concentrations levels of CO. Localized areas where ambient concentrations exceed national and/or state standards for CO are termed CO “hotspots.”

CO hotspots used to be a concern in Ventura County when this area was designated as a nonattainment area for State and national CO standards. The county is now in attainment of all applicable State and national standards for CO and CO concentrations are no longer monitored in the county. This is due to substantial reductions in CO emissions from motor vehicles. The greatest potential for a CO hotspot to occur in Ventura County today is at the roadway edge of a very congested intersection.

In order for a receptor to be exposed to a CO hotspot, that person would have to remain in a location where the total CO concentration exceeds the State and national eight-hour standard for an entire eight-hour period or greater. For that to occur, the ambient (background) CO concentration would have to be very high and an intersection would have to be highly congested for a period of eight-hours or greater.²

As discussed in the Transportation section of this EIR, all of the study-area intersections are projected to operate at Level of Service (LOS) A or B in the future with the traffic generated by other development projects in the area and the proposed project. As such, no sensitive receptors in the vicinity of the study-area intersections would be exposed to CO hotspots in the future with traffic generated by the proposed project and the potential impact would be less than significant.

Toxic Air Contaminants

The project is a residential and redeveloped golf course project, and would not be a new source of operational toxic air contaminants. However, as the project is large, the City of Camarillo requested that a construction-based health risk assessment be conducted. Therefore, for informational and public disclosure purposes, a construction-based health risk assessment (HRA) following the latest OEHHA guidance has been performed. The HRA is included as Appendix F to this EIR.

An HRA requires the completion and interaction of four general steps:

1. Quantify project-generated TAC emissions.

² The intersection would need to operate at Level of Service (LOS) F for several hours per day.

2. Identify nearby ground-level receptor locations that may be affected by the emissions (including any special sensitive receptor locations such as residences, schools, hospitals, convalescent homes, and daycare centers).
3. Perform air dispersion modeling analyses to estimate ambient pollutant concentrations at each receptor location using project TAC emissions and representative meteorological data to define the transport and dispersion of those emissions in the atmosphere.
4. Characterize and compare the calculated health risks with the applicable health risk significance thresholds.

Construction Health Risk Assessment Assumptions

The U.S. EPA AMS/EPA Regulatory Model (AERMOD) model, the air dispersion modeling method approved by the ARB for such assessments was used to estimate concentrations of DPM from the construction of the project. The DPM construction emissions were estimated from the annual CalEEMod emissions for the project, and amount to weighted averages of 0.272615 tons per year of DPM (as PM₁₀ exhaust) for 2021, 0.114189 tons for years 2022-2023, and 0.09603 tons per year of DPM for years 2024-2026 (see Table 5.2-6). The emissions were represented in the model as an area source equal to the size of the project's construction area (approximately 180 acres). An emission release height of 3.66 meters was also assumed, to account for the average emissions height from all pieces of construction equipment. Receptor locations where construction impacts were calculated focused on the residential receptors located adjacent to the project site. Meteorological data used in the model is from the closest monitoring station, the El Rio monitoring station, approximately 8.8 miles northwest of the project site.

TABLE 5.2-6 - CONSTRUCTION-BASED EMISSION FACTORS

Year	Tons per Year of DPM	Duration
2021	0.272615385	1 year exposure
2022-2023	0.114189423	2 year exposure
2024-2026	0.09603	3 year exposure

Source of table data: MD Acoustics, June 29, 2020.

Receptor Network

The assessment requires that a network of receptors be specified where the impacts can be computed at the various locations surrounding the project site. Discrete receptors were mainly located at residential locations close to the project site boundary with a receptor located at the Camarillo Springs mobile home park community pool. Discrete receptors are identified as orange triangles and numbered 1 through 14 in Figure 5.2-1. In addition, the identified sensitive receptors locations were supplemented by the

specification of a modeling grid that extended around the proposed project site to identify other potential locations of impact.

Estimation of Health Risks

Potential health risks from DPM are twofold. First, diesel particulate matter is a carcinogen according to the State of California. Second, long-term chronic exposure to diesel particulate matter can cause health effects to the respiratory system. Each of these health risks is discussed below. Because the VCAPCD does not have its own formula for health risk calculations, to be conservative, South Coast Air Quality Management District (SCAQMD) formulae (based on the most-recent Office of Environmental Health Hazard Assessment guidance) were used as detailed below.

Cancer Risks

According to the Risk Assessment Guidelines: Guidance Manual for Preparation of Health Risk Assessments, released by the Office of Environmental Health Hazard Assessment (OEHHA) in February 2015 and formally adopted in March 2015, the residential inhalation dose for long-term cancer risk assessment should be calculated using the following formula:

$$[\text{Dose-air (mg/(Kg-day))}] * \text{Cancer Potency} * [1 \times 10^{-6}] = \text{Potential Cancer Risk}$$

Where:

Cancer Potency Factor = 1.1

$$\text{Dose-inh} = (\text{C-air} * \text{DBR} * \text{A} * \text{EF} * \text{ED} * \text{ASF} * \text{FAH} * 10^{-6}) / \text{AT}$$

Where:

DBR [Daily breathing rate (L/kg body weight – day)] = 261 for adults, 572 for children, and 1,090 for infants, and 361 for 3rd trimester per SCAQMD Permit Application Package "M" Table 9.1 guidance.

A [Inhalation absorption factor] = 1

EF [Exposure frequency (days/year)] = 350

ED [Exposure duration (years)] = 30 for adults (for an individual who is an adult at opening year), 14 for children (from 2-16 years), 14 for adults (from 16-30 years), 2 for infants, and 1 for 3rd Trimester
ASF [Age sensitivity factor] = 10 for 3rd trimester to 2 years of age, 3 for 2 to 16 years of age, and 1 for 16 to 30 years of age

FAH [Fraction of time spent at home] = 1 for 3rd trimester to 2 years of age, 1 for 2 to 16 years of age, and 0.73 for 16 to 30 years of age

10⁶ [Micrograms to milligrams conversion]

AT [Average time period over which exposure is averaged in days] = 25,550

INSERT Figure 5.2-1 - AERMOD Model Source and Receptor Placement

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As the project is expected to be constructed from 2021 to 2026 (less than five years total), only the impacts to the most sensitive groups, 3rd trimester, infants (0-2 years) and children were evaluated and the exposure frequency and duration were adjusted to correspond to the number of construction days/ construction time as necessary (see Tables 5.2-7 through 5.2-9 for calculation details). The model run result for the most impacted group is shown below in Figure 5.2-2 (for infants 0-2 years). The tables provide a summary of the unmitigated calculated construction diesel emission concentrations at the nearest fetus (3rd trimester), infant (0-2 years), and child (2+ years) receptors respectively. Table 5.2-7 shows that 3rd trimester exposure will not result in a cancer risk in excess of 10 in a million. This impact would be less than significant.

However, Table 5.2-8 shows that infant receptors (0-2 years) closest to the project boundary, next to the footprint where construction (including grading, infrastructure, building construction, paving and architectural coating) will occur, would experience the highest levels of construction-related diesel emissions, resulting in a maximum cancer risk of 23.26 in a million. Mitigation measure AQ-1 already requires that construction equipment on-site have Tier 3 engines; however as emissions of diesel particulate matter from construction equipment would still cause an exceedance of the 10 in a million TAC threshold, this impact is potentially significant and additional mitigation is required.

Table 5.2-9 shows that the exposure to children 2+ years for the remaining duration of construction would not result in a cancer risk in excess of 10 in a million. As children 2+ years would not be exposed to construction-related cancer risk from DPM emissions in excess of 10 in a million, it is reasonable to assume that neither adults nor off-site workers would be exposed to construction-related cancer risk from DPM emissions in excess of 10 in a million. This impact would be less than significant.

Non-Cancer Risks

The relationship for non-cancer health effects is given by the equation:

$$\text{HIDPM} = \text{CDPM} / \text{RELDPM}$$

Where,

HIDPM = Hazard Index; an expression of the potential for non-cancer health effects.

CDPM = Annual average diesel particulate matter concentration in $\mu\text{g}/\text{m}^3$.

RELDPM = Reference Exposure Level (REL) for diesel particulate matter; the diesel particulate matter concentration at which no adverse health effects are anticipated.

The non-carcinogenic hazards to residential 3rd trimester, infant, and child receptors are also detailed in Tables 5.2-7 through 5.2-9. The RELDPM is $5 \mu\text{g}/\text{m}^3$. The Office of Environmental Health Hazard Assessment as protective for the respiratory system has established this concentration. Using the maximum DPM concentration for infant exposure, the resulting Hazard Index is

$$\text{HIDPM} = 0.41479 / 5 = 0.08296$$

**TABLE 5.2-7 - CARCINOGENIC RISKS AND NON-CARCINOGENIC HAZARDS
3RD TRIMESTER EXPOSURE SCENARIO (0.25 YEARS) 2021**

Receptor ID	Maximum Concentration ($\mu\text{g}/\text{m}^3$)	Carcinogenic Risk		Non-carcinogenic Hazard	
		Risk (per million)	Significant Impact ¹	Hazard Index	Significant Impact ²
1	0.23793	2.40	No	0.0476	No
2	0.2413	2.44	No	0.0483	No
3	0.04578	0.46	No	0.0092	No
4	0.32275	3.26	No	0.0646	No
5	0.06247	0.63	No	0.0125	No
Pool 6	0.21106	2.13	No	0.0422	No
7	0.31159	3.15	No	0.0623	No
8	0.22745	2.30	No	0.0455	No
9	0.04213	0.43	No	0.0084	No
10	0.26034	2.63	No	0.0521	No
11	0.06248	0.63	No	0.0125	No
12	0.01618	0.16	No	0.0032	No
13	0.00864	0.09	No	0.0017	No
14	0.030059	0.31	No	0.0061	No

¹ A significant impact occurs if the carcinogenic risk is greater than 10 in 1 million.

² A significant impact occurs if the Hazard Index is 1.0 or greater.

Source of table data: MD Acoustics, June 29, 2020.

INSERT Figure 5.2-2 - Unmitigated Annual DPM Emissions - Infants 2022-2023

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**TABLE 5.2-8 - CARCINOGENIC RISKS AND NON-CARCINOGENIC HAZARDS
INFANT EXPOSURE SCENARIO (2 YEAR) 2022-2023**

Receptor ID	Maximum Concentration ($\mu\text{g}/\text{m}^3$)	Carcinogenic Risk		Non-carcinogenic Hazard	
		Risk (per million)	Significant Impact ¹	Hazard Index	Significant Impact ²
1	0.0996	17.13	Yes	0.0199	No
2	0.10107	17.39	Yes	0.0202	No
3	0.01918	3.30	No	0.0038	No
4	0.13519	23.26	Yes	0.0270	No
5	0.0216	3.72	No	0.0043	No
Pool 6	0.0884	15.21	Yes	0.0177	No
7	0.13051	22.45	Yes	0.0261	No
8	0.09527	16.39	Yes	0.0191	No
9	0.01764	3.03	No	0.0035	No
10	0.10905	18.76	Yes	0.0218	No
11	0.02617	4.50	No	0.0052	No
12	0.00677	1.16	No	0.0014	No
13	0.00362	0.62	No	0.0007	No
14	0.01281	2.20	No	0.0026	No

¹ A significant impact occurs if the carcinogenic risk is greater than 10 in 1 million.

² A significant impact occurs if the Hazard Index is 1.0 or greater.

Source of table data: MD Acoustics, June 29, 2020.

**TABLE 5.2-9 - CARCINOGENIC RISKS AND NON-CARCINOGENIC HAZARDS
CHILD EXPOSURE SCENARIO 2024-2026**

Receptor ID	Maximum Concentration ($\mu\text{g}/\text{m}^3$)	Carcinogenic Risk		Non-carcinogenic Hazard	
		Risk (per million)	Significant Impact ¹	Hazard Index	Significant Impact ²
1	0.08381	3.22	No	0.0168	No
2	0.085	3.27	No	0.0170	No
3	0.01613	0.62	No	0.0032	No
4	0.11369	4.37	No	0.0227	No
5	0.022	0.85	No	0.0044	No
Pool 6	0.07435	2.86	No	0.0149	No
7	0.10976	4.22	No	0.0220	No
8	0.08012	3.08	No	0.0160	No
9	0.01484	0.57	No	0.0030	No
10	0.09171	3.52	No	0.0183	No
11	0.02201	0.85	No	0.0044	No
12	0.0057	0.22	No	0.0011	No
13	0.00304	0.12	No	0.0006	No
14	0.01078	0.41	No	0.0022	No

¹ A significant impact occurs if the carcinogenic risk is greater than 10 in 1 million.

² A significant impact occurs if the Hazard Index is 1.0 or greater.

Source of table data: MD Acoustics, June 29, 2020.

The criterion for significance is a Hazard Index increase of 1.0 or greater. Therefore, the proposed project would have a less than significant impact due to the non-cancer risk from diesel emissions from the construction equipment.

Mitigation

The following mitigation measures are identified to comply with VCAPCD Rule 55 and reduce the fugitive dust and diesel emissions generated during project construction:

AQ-2 All project contractors must implement fugitive dust control measures throughout all phases of construction. The project developer shall include in construction contracts the following control measures:

-
- Minimize the area disturbed on a daily basis by clearing, grading, earthmoving, and/or excavation operations.
 - Pre-grading/excavation activities must include watering the area to be graded or excavated before the commencement of grading or excavation operations. Application of water should penetrate sufficiently to minimize fugitive dust during these activities.
 - All trucks must be required to cover their loads as required by California Vehicle Code §23114.
 - All graded and excavated material, exposed soil areas, and active portions of the construction site, including unpaved on-site roadways, must be treated to prevent fugitive dust. Treatment must include, but not necessarily be limited to, periodic watering, application of environmentally-safe soil stabilization materials, and/or roll-compaction as appropriate. Watering must be done as often as necessary.
 - Material stockpiles must be enclosed, covered, stabilized, or otherwise treated, to prevent blowing fugitive dust offsite.
 - Graded and/or excavated inactive areas of the construction site must be monitored by a City-designated monitor at least weekly for dust stabilization. Soil stabilization methods, such as water and roll-compaction, and environmentally-safe control materials, must 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 must be posted on-site limiting on-site traffic to 15 miles per hour or less.
 - 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 must 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 must use his/her discretion in conjunction with the VCAPCD in determining when winds are excessive.
 - Adjacent streets and roads must 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.

AQ-3 The project developer shall include in construction contracts the requirement that heavy diesel equipment used for grading and utilities installation shall have low emission Tier 3 or better engines with diesel oxidation catalysts, level 3 diesel particulate filters that reduce particulate matter by at least 85 percent, and meet the latest ARB best available control technology.

Mitigation Monitoring

The Department of Community Development shall review project construction contracts prior to issuance of grading permits to ensure that the contracts include the requirements of mitigation measures AQ-2 and AQ-3.

Impact After Mitigation

As discussed previously, if all appropriate emissions control measures recommended by the Ventura County Air Quality Assessment Guidelines are implemented for a project, then construction emissions are not considered significant. Page 10 of the CalEEMod result sheets provided in Appendix E indicate that the fugitive dust control measures would reduce the daily emissions of PM₁₀ from 27.9 ppd to 13.8 ppd during the grading phase. They would also reduce the daily emissions of PM_{2.5} during this phase from 16.4 ppd to 9.6 ppd. Therefore, mitigation measure AQ-2 would reduce the construction-related fugitive dust impact of the project to a less than significant level by reducing fugitive dust and particulate matter emissions to the extent feasible through watering, truck covers, the use of stabilization materials, enclosing stockpiles, air monitoring, and stopping work during wind events.

Table 5.2-10 shows that with incorporation of mitigation measure AQ-3, which requires heavy diesel equipment used for grading and utilities installation to have Tier 3 or better engines with diesel oxidation catalysts, level 3 diesel particulate filters that reduce particulate matter by at least 85 percent and meet the latest CARB best available control technology, the cancer risk to infants will have decreased at all receptor locations to less than 10 in a million. Therefore, mitigation measure AQ-3 would reduce the construction-related health risk impact of the project to a less than significant level.

Objectionable Odors

Threshold: Would the proposed project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

Impact: Implementation of the proposed project would not result in other emissions that create objectionable odors adversely affecting a substantial number of people.

Impact Analysis

Odors are typically associated with industrial projects involving the use of chemicals, solvents, petroleum products, and other strong-smelling elements used in manufacturing processes, as well as sewage

treatment facilities and landfills. The proposed project consists of the development of new residential buildings. Residential uses and golf courses are not typically associated with odor complaints. As the proposed uses involve no elements related to industrial projects, no objectionable odors are anticipated to be generated by the proposed project.

TABLE 5.2-10 - MITIGATED CARCINOGENIC RISKS AND NON-CARCINOGENIC HAZARDS INFANT EXPOSURE SCENARIO (2 YEAR) 2022-2023

Receptor ID	Maximum Concentration ($\mu\text{g}/\text{m}^3$)	Carcinogenic Risk		Non-carcinogenic Hazard	
		Risk (per million)	Significant Impact ¹	Hazard Index	Significant Impact ²
1	0.01494	2.57	No	0.0030	No
2	0.01516	2.61	No	0.0030	No
3	0.00288	0.49	No	0.0006	No
4	0.02028	3.49	No	0.0041	No
5	0.00324	0.56	No	0.0006	No
Pool 6	0.01326	2.28	No	0.0027	No
7	0.01958	3.37	No	0.0039	No
8	0.01429	2.46	No	0.0029	No
9	0.00265	0.46	No	0.0005	No
10	0.01636	2.81	No	0.0033	No
11	0.00393	0.68	No	0.0008	No
12	0.00102	0.17	No	0.0002	No
13	0.00054	0.09	No	0.0001	No
14	0.00192	0.33	No	0.0004	No

¹ A significant impact occurs if the carcinogenic risk is greater than 10 in 1 million.

² A significant impact occurs if the Hazard Index is 1.0 or greater.

Source of table data: MD Acoustics, June 29, 2020.

During construction a small amount of odors associated with the use of diesel-powered construction equipment may be present. However, odors associated with construction machinery dissipate and disperse quickly, and construction activities would not be located close to existing residences for any prolonged period of time.

Both operational and construction odor impacts will be less than significant.

CUMULATIVE IMPACTS

The VCAPCD recommends that any operational emissions from individual projects that exceed the project-specific thresholds of significance identified above be considered cumulatively considerable. As discussed in the preceding impact analysis, the proposed project would generate average daily operational emissions that do not exceed the thresholds of significance recommended by the VCAPCD. As such, the project would not generate a cumulatively considerable net increase of criteria pollutants. This would be a less than significant cumulative impact.

As discussed previously, construction-related ROC and NO_x emissions are not counted towards the ROC and NO_x significance thresholds, since these emissions are only temporary. Likewise, the VCAPCD has not adopted any thresholds of significance for fugitive dust. However, the project would implement construction equipment and fugitive controls recommended by the VCAPCD. As such, the contribution of the project to any regional cumulative construction-related air quality impacts would not be cumulatively considerable.

Construction-related TAC impacts are generally confined to the immediate vicinity of a project site. At the present time, the only other related project within the Camarillo Springs area is the request to modify the conditional of approval for the Village Greens Market located at 795 Camarillo Springs Road. No other new development is proposed or approved within the Camarillo Springs area. As such, no other related projects would generate localized construction-related TAC emissions and impact the sensitive receptors in the vicinity of the project site.

Likewise, the other related project in the Camarillo Springs area would not be a source anticipated to be a source of objectionable odors.

UNAVOIDABLE SIGNIFICANT IMPACTS

The proposed project would not create any unavoidable significant air quality impacts.