5.0 ENVIRONMENTAL IMPACT ANALYSIS

3. AIR QUALITY

1. INTRODUCTION

This section addresses the air emissions generated by construction and operation of the Project. The analysis also addresses the consistency of the Project with the South Coast Air Quality Management District's (SCAQMD) Air Quality Management Plan (AQMP). The analysis of Project-generated air emissions focuses on whether the Project would cause an exceedance of a national or state air quality standard or SCAQMD significance threshold. The analysis is based on ENVIRON International Corporation's *Air Quality Technical Report* (Air Quality Report) dated February 2015, included in **Appendix 5.3** of this Draft EIR.

2. ENVIRONMENTAL SETTING

a. Air Quality Background

The Project is located within the South Coast Air Basin (Air Basin), an approximately 6,745-square-mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Air Basin includes all of Orange County and the non-desert portions of Los Angeles County (County) and Riverside and San Bernardino Counties, in addition to the Coachella Valley area in Riverside County. The regional climate within the Air 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 Air Basin is primarily influenced by meteorology and a wide range of emissions sources, such as dense population centers, heavy vehicular traffic, and industry.

Air pollutant emissions within the Air Basin are generated primarily by stationary and mobile sources. Stationary sources can be divided into two major subcategories: point and area sources. Point sources occur at a specific location and are often identified by an exhaust vent or stack. Examples include boilers or combustion equipment that produce electricity or generate heat. Area sources are widely distributed and include such sources as residential and commercial water heaters, painting operations, lawn mowers, agricultural fields, landfills, and some consumer products. 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, and self-propelled construction equipment. Air pollutants can also be generated by the natural environment such as when high winds suspend fine dust particles.

Both the federal and state governments have established air standards for outdoor concentrations of various air pollutants in order to protect the public health and welfare. These pollutants are referred to as “criteria air pollutants” as a result of the specific standards, or criteria, which have been adopted for them. The national and state air standards have been set at levels considered safe to protect public health, including the health of sensitive populations, such as asthmatics, children, and the elderly with an adequate margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. The national and state criteria pollutants and the applicable standards are listed in **Table 5.3-1**, National and State Air Standards, on page 5.3-3.

Table 5.3-1
National and State Air Standards

Pollutant	Averaging Period	State Standard[a]	National Standard[a]	Los Angeles County Attainment Status[b]	
				State Standard[c]	National Standard[d]
Ozone (O_3)	1 hour	0.09 ppm (180 µg/m^3)	—	Non-Attainment (Extreme)	—
	8 hour	0.07 ppm (137 µg/m^3)	0.075 ppm (147 µg/m^3)	Non-Attainment (Extreme)	Non-Attainment (Extreme)
Respirable Particulate Matter (PM_{10})	24 hour	50 µg/m^3	150 µg/m^3	Non-Attainment	Attainment (Maintenance)
	Annual	20 µg/m^3	—	Non-Attainment	—
Fine Particulate Matter ($PM_{2.5}$)	24 hour	—	35 µg/m^3	—	Non-Attainment
	Annual	12 µg/m^3	12 µg/m^3	Non-Attainment	Non-Attainment
Carbon Monoxide (CO)	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	Attainment	Attainment (Maintenance)
	8 hour	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	Attainment	Attainment (Maintenance)
Nitrogen Dioxide (NO_2)	1 hour	0.18 ppm (339 µg/m^3)	0.10 ppm (188 µg/m^3)	Non-Attainment	Unclassified/ Attainment
	Annual	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Non-Attainment	Unclassified/ Attainment
Lead (Pb)	30-day average	1.5 µg/m^3	—	Non-Attainment	—
	Rolling 3-month average	—	0.15 µg/m^3	—	Non-Attainment
Sulfur Dioxide (SO_2)	1 hour	0.25 ppm (655 µg/m^3)	0.075 ppm (196 µg/m^3)	Attainment	Attainment
	3 hour	—	0.5 ppm (1,300 µg/m^3)	—	Attainment
	24 hour	0.04 ppm (105 µg/m^3)	—	Attainment	—
Hydrogen Sulfide (H_2S)	1 hour	0.03 ppm (42 µg/m^3)	—	Unclassified	—
Vinyl Chloride	24 hour	0.01 ppm (26 µg/m^3)	—	Unclassified	—
Sulfates	24 hour	25 µg/m^3	—	Attainment	—

Table 5.3-1 (Continued)
National and State Air Standards

Pollutant	Averaging Period	State Standard[a]	National Standard[a]	Los Angeles County Attainment Status[b]	
				State Standard[c]	National Standard[d]
Visibility-Reducing Particles	8 hour	Extinction coefficient of 0.23 per kilometer (visibility of 10 miles or more due to particles when relative humidity is less than 70 percent)	—	Unclassified	—

[a] *Ambient Air Quality Standards Chart (www.arb.ca.gov/research/aaqs/aaqs2.pdf). Last accessed March 3, 2015, and last updated June 4, 2013.*

[b] *"Attainment" means that the regulatory agency has determined, based on established criteria, that the Air Basin meets the identified standard. "Non-attainment" means that the regulatory agency has determined that the Air Basin does not meet the standard.*

[c] *State standard attainment status based on 2012 State Area Designations maps (www.arb.ca.gov/desig/adm/adm.htm). Last accessed March 3, 2015, and last reviewed April 22, 2013.*

[d] *National standard attainment status based on National Area Designations maps (www.arb.ca.gov/desig/adm/adm.htm). Last accessed March 3, 2015, and last reviewed on April 22, 2013.*

Source: Eyestone Environmental, 2014.

b. Air Pollution and Potential Health Effects

Certain air pollutants have been recognized to cause 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 have been identified and regulated as part of the overall endeavor to prevent further deterioration and facilitate improvement in air quality within the Air Basin. The criteria air pollutants for which national and state standards have been promulgated and which are most relevant to current air quality planning and regulation in the Air Basin include ozone (O_3), respirable particulate matter (PM_{10}), fine particulate matter ($PM_{2.5}$), carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), lead (Pb), and vinyl chloride (VC). In addition, toxic air contaminants (TACs) are of concern in the Air Basin. Each of these is briefly described below.

(1) Criteria Pollutants

(a) Ozone (O_3)

Ozone is a gas that is formed when volatile organic compounds (VOCs) and nitrogen oxides (NO_X)—both byproducts of internal combustion engine exhaust—undergo 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 lung efficiency.

(b) Particulate Matter (PM_{10} and $PM_{2.5}$)

Particulate matter is a complex mixture of extremely small particles and liquid droplets. Some particles, known as primary particles are emitted directly from a source, such as construction sites, unpaved roads, smokestacks or fires. Others, known as secondary particles, form in complicated reactions in the atmosphere. The human body naturally prevents the entry of larger particles into the body. However, small particles, with an aerodynamic diameter equal to or less than 10 microns (PM_{10}) and even smaller particles, with an aerodynamic diameter equal to or less than 2.5 microns ($PM_{2.5}$), can enter the body and become trapped in the nose, throat, and upper respiratory tract. These small particulates potentially could 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 PM_{10} and $PM_{2.5}$. Lung impairment can persist for two to three weeks after exposure to high levels of particulate matter. Some types of particulates also could become toxic after inhalation due to the presence of certain chemicals and their reaction with internal body fluids.

(c) Carbon Monoxide (CO)

CO is primarily emitted from combustion processes and motor vehicles due to the incomplete combustion of fuel. 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 carbon monoxide can cause nausea, dizziness, and headaches at moderate concentrations and can be fatal at high concentrations.

(d) Nitrogen Dioxide (NO_2)

NO_2 is a byproduct of fuel combustion and major sources include power plants, large industrial facilities, and motor vehicles. The principal form of nitrogen oxide produced by combustion is nitric oxide (NO), which reacts quickly to form NO_2, creating the mixture of NO and NO_2 commonly called NO_X. NO_2 absorbs blue light and results in a brownish-red cast to the atmosphere and reduced visibility. NO_2 also contributes to the formation of PM_{10}. Nitrogen oxides irritate the nose and throat, and increase one's susceptibility to respiratory effects and infections, especially in people with asthma. The principal concern of NO_X is as a precursor to the formation of ozone.

(e) Sulfur Dioxide (SO_2)

Major sources of SO_2 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. SO_2 potentially causes wheezing, shortness of breath, and coughing. High levels of particulates appear to worsen the effect of sulfur dioxide, and long-term exposures to both pollutants leads to higher rates of respiratory illness.

(f) Lead (Pb)

Lead is emitted from industrial facilities and from the sanding or removal of old lead-based paint. Smelting or processing metal is the primary source of lead emissions, which is primarily a regional pollutant. 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.

(g) Volatile Organic Compounds (VOCs)

VOCs are typically formed from combustion of fuels and/or released through evaporation of organic liquids. Some VOCs are also classified by the State as TACs. While there are no specific VOC air standards, VOC is a prime component (along with NO_X) of the photochemical processes by which criteria pollutants, particularly ozone, nitrogen dioxide, and certain fine particles, are formed. They are thus regulated as "precursors" to formation of those criteria pollutants.

(h) Vinyl Chloride (VC)

VC is a chemical building block, or monomer, used in the production of polyvinyl chloride (PVC). PVC is used to make materials, including pipes, used in the construction, packaging, electrical, and transportation industries. Major sources of VC include PVC

production and fabrication facilities and, at the other end of PVC's life cycle, as PVC deteriorates, landfills and publicly-owned treatment works. VC is carcinogenic. Exposure to VC has been associated with a rare cancer, liver angiosarcoma, in workers, and with tumors of the liver, lungs, mammary glands and the nervous system in animals. The state air standard reflects the limit of detection for VC in ambient air when the standard was promulgated, in 1978. By 1990, when state staff prepared the technical support document for identifying VC as a TAC, VC had not been detected in ambient air at any of the samplers in the California Air Resources Board's (CARB) TAC monitoring network, although ambient hot spot sampling had detected VC at levels up to 150 percent of the standard. VC is primarily of concern as a carcinogenic TAC at hot spots. It is regulated as a TAC to allow implementation of health-protective control measures at levels below the state air standard.[1]

(i) Hydrogen Sulfide (H_2S)

H_2S is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation. Breathing H_2S at levels above the state air standard can result in exposure to a disagreeable odor.

(2) Toxic Air Contaminants (TACs)

TACs refer to a diverse group of "non-criteria" air pollutants that can affect human health, but have not had air 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. TACs are classified as carcinogenic and noncarcinogenic, where carcinogenic TACs can cause cancer and noncarcinogenic TACs can cause acute and chronic impacts to different target organ systems (e.g., eyes, respiratory, reproductive, developmental, nervous, and cardiovascular).

CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified, or "listed," as a TAC in California. The complete list of such substances is located at www.arb.ca.gov/toxics/id/taclist.htm.

Diesel PM (DPM), which is emitted in the exhaust from diesel engines, was listed by the State as a TAC in 1998. DPM has historically been used as a surrogate measure of

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[1] *CARB, Proposed Identification of Vinyl Chloride as a Toxic Air Contaminant. Staff Report/Executive Summary, October 1990, www.arb.ca.gov/toxics/id/summary/vinyl.pdf, accessed March 2, 2015.*

exposure for all diesel exhaust emissions. DPM consists of fine particles (fine particles have a diameter less than 2.5 µm), including a subgroup of ultrafine particles (ultrafine particles have a diameter less than 0.1 µm). Collectively, these particles have a large surface area which makes them an excellent medium for absorbing organics. The visible emissions in diesel exhaust include carbon particles or "soot." Diesel exhaust also contains a variety of harmful gases and cancer-causing substances.

Exposure to DPM may be a health hazard, particularly to children whose lungs are still developing and the elderly who may have other serious health problems. DPM levels and resultant potential health effects may be higher in close proximity to heavily traveled roadways with substantial truck traffic or near industrial facilities. According to CARB, DPM exposure may lead to the following adverse health effects: (1) aggravated asthma; (2) chronic bronchitis; (3) increased respiratory and cardiovascular hospitalizations; (4) decreased lung function in children; (5) lung cancer; and (6) premature deaths for people with heart or lung disease.[2,3]

To provide perspective on the contribution that DPM has on the overall statewide average ambient air toxics potential cancer risk, CARB evaluated risks from specific compounds using data from CARB's ambient monitoring network. (CARB maintains a 21-site air toxics monitoring network which measures outdoor ambient concentration levels of approximately 60 air toxics.) CARB determined that, of the top ten inhalation risk contributors, DPM contributes approximately 71 percent of the total potential cancer risk.[4]

c. Regulatory Framework

The Project Site and surrounding vicinity are subject to federal, state, and local air quality laws and regulations. A number of plans and policies have been adopted by various agencies that address air quality concerns. Those laws, regulations, plans, and policies that are relevant to the Project are discussed below.

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[2] *CARB, Diesel and Health Research, www.arb.ca.gov/research/diesel/diesel-health.htm, accessed March 2, 2015.*

[3] *CARB, Fact Sheet: Diesel Particulate Matter Health Risk Assessment Study for the West Oakland Community: Preliminary Summary of Results, March 2008, www.arb.ca.gov/ch/communities/ra/westoakland/documents/factsheet0308.pdf, accessed March 2, 2015.*

[4] *SCAQMD, "Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-II)," Draft Report, Executive Summary, March 2000, www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-ii/mates-ii-contents-and-executive-summary.pdf?sfvrsn=4, accessed March 2, 2015.*

(1) Criteria Pollutants

(a) Federal Regulations

At the federal level, the U.S. Environmental Protection Agency (USEPA) is responsible for implementation of some portions of the Federal Clean Air Act (CAA) (e.g., certain mobile source and other requirements). Other portions of the CAA (e.g., stationary source requirements) are implemented by state and local agencies.

The CAA identifies specific emission reduction goals for areas not meeting the National Ambient Air Quality Standards (national air standards), and requires both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones. The sections of the CAA most applicable to the Project include Title I (Nonattainment Provisions) and Title II (Mobile Source Provisions).

Title I provisions are implemented for the purpose of attaining national air standards. **Table 5.3-1**, National and State Air Standards, shows the national air standards currently in effect for each criteria pollutant and the County's relative attainment status.

Nonattainment designations are categorized into seven levels of severity: (1) basic; (2) marginal; (3) moderate; (4) serious; (5) severe-15; (6) severe-17; and (7) extreme.[5] On June 11, 2007, the USEPA reclassified the Air Basin as a federal "attainment" area for CO and approved the Air Basin's CO maintenance plan.[6] The Air Basin fails to meet national air standards for O_3 and $PM_{2.5}$ and, therefore, is considered a federal "non-attainment" area for these pollutants. In addition, the County fails to meet the national air standard for lead and, therefore, is considered a federal "non-attainment" area for lead.

Title II of the CAA pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline and automobile pollution control devices are examples of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have been strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have been lowered substantially and the specification requirements for cleaner burning gasoline are more stringent.

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[5] *The "-15" and "-17" designations reflect the number of years within which attainment must be achieved.*

[6] *"Approval and Promulgation of Implementation Plans and Designation of Areas for Air Quality Planning Purposes: California, Final Rule." Federal Register 72 (11 May 2007):26718-26721, www.federalregister.gov/articles/2015/01/13/2015-00270/approval-and-promulgation-of-implementation-plans-designation-of-areas-for-air-quality-planning, accessed March 2, 2015.*

(b) State Regulations

The California Clean Air Act (CCAA), signed into law in 1988, requires all areas of the State to achieve and maintain the California Ambient Air Quality Standards (state air standards) by the earliest practicable date. CARB, a part of the California Environmental Protection Agency (Cal EPA), is responsible for the coordination and administration of both state and federal air pollution control programs within California. In this capacity, CARB conducts research, sets state air standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products, and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. **Table 5.3-1**, National and State Air Standards, includes the state air standards currently in effect for each of the criteria pollutants as well as other pollutants recognized by the State. As shown in **Table 5.3-1**, National and State Air Standards, the state air standards include more stringent standards than the national air standards.

(c) Regional Regulations

(i) South Coast Air Quality Management District

SCAQMD shares responsibility with CARB for ensuring that all national and state air standards are achieved and maintained throughout all of Orange County and the urban portions of Los Angeles, Riverside, and San Bernardino counties. SCAQMD has jurisdiction over an area of approximately 10,743 square miles. This area includes all of Orange County and Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The Air Basin is a subregion of SCAQMD's jurisdiction.

In order to meet the national and state air standards, SCAQMD has adopted a series of Air Quality Management Plans (AQMPs).[7] The 2012 AQMP incorporates the latest scientific and technological information and planning assumptions, including the Southern California Association of Governments' (SCAG's) 2012 Regional Transportation Plan/Sustainable Communities Strategy (2012–2035 RTP/SCS) and updated emission inventory methodologies for various source categories. The 2012 AQMP also includes new and changing federal requirements, implementation of new technology measures, and the continued development of economically sound, flexible compliance approaches.

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[7] *SCAQMD is currently preparing the 2016 AQMP which will be a comprehensive and integrated plan primarily focused on addressing the ozone NAAQS. Please refer to the SCAQMD website for the proposed adoption timeline, available at www.aqmd.gov/home/about/groups-committees/aqmp-advisory-group), accessed March 2, 2015.*

The AQMP provides emissions inventories, ambient measurements, meteorological episodes, and air quality modeling tools. The AQMP also provides policies and measures to guide responsible agencies in achieving national air standards for healthful air quality in the Air Basin. It also incorporates a comprehensive strategy aimed at controlling pollution from all sources, including stationary sources, on-road and off-road mobile sources, and area sources.

SCAQMD adopts rules and regulations to implement portions of the AQMP. Several of these rules may apply to construction or operation of the Project. For example, SCAQMD Rule 403 requires the implementation of best available fugitive dust control measures during active construction periods capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads.

SCAQMD published the *CEQA Air Quality Handbook* to assist lead agencies, as well as consultants, project proponents, and other interested parties, in evaluating potential air quality impacts of projects proposed in the Air Basin. The *CEQA Air Quality Handbook* provides standards, methodologies, and procedures for conducting air quality analyses in EIRs and was used in the preparation of this analysis.[8]

In order to assist the CEQA practitioner in conducting an air quality analysis in the interim while the replacement *Air Quality Analysis Guidance Handbook* is being prepared, supplemental guidance/information is provided on SCAQMD's website (www.aqmd.gov/ceqa/hdbk.html) and includes: (1) EMFAC on-road vehicle emission factors; (2) background CO concentrations; (3) localized significance thresholds; (4) mitigation measures and control efficiencies; (5) mobile source toxics analysis; (6) off-road mobile source emission factors; (7) $PM_{2.5}$ significance thresholds and calculation methodology; and (8) updated SCAQMD significance thresholds. SCAQMD also recommends using approved models to calculate emissions from land use projects, such as CalEEMod. These recommendations were followed in the preparation of this analysis.

(ii) Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG

[8] *SCAQMD is currently in the process of replacing the CEQA Air Quality Handbook with the Air Quality Analysis Guidance Handbook. Please refer to the SCAQMD website for the proposed adoption timeline, available at www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook, accessed March 2, 2015.*

coordinates with various air quality and transportation stakeholders in southern California to ensure compliance with the federal and state air quality requirements, including the Transportation Conformity Rule and other applicable federal, state, and air district laws and regulations. As the federally designated Metropolitan Planning Organization (MPO) for the six-county southern California region, SCAG is required by law to ensure that transportation activities "conform" to, and are supportive of, the goals of regional and state air quality plans to attain the national air standards. In addition, SCAG is a co-producer, with SCAQMD, of the transportation strategy and transportation control measure sections of the AQMP for the Air Basin. With regard to future growth, SCAG has prepared the RTP, which provides population, housing, and employment projections for cities under its jurisdiction. The growth projections in the RTP are based on projections originating under County and City General Plans. The RTP growth projections are used in the preparation of the air quality forecasts and consistency analysis included in SCAQMD's AQMP.

(d) Local Regulations

In accordance with CEQA requirements and the CEQA review process, the County of Los Angeles (County) assesses the air quality impacts of new development projects, requires mitigation of potentially significant air quality impacts by conditioning discretionary permits, monitors and enforces implementation of such mitigation, and may consult with SCAQMD, as needed. The County uses SCAQMD's *CEQA Air Quality Handbook* as the guidance document for the environmental review of plans and development proposals within its jurisdiction.

(i) County of Los Angeles General Plan

As discussed in more detail in **Section 5.11**, Land Use and Planning, of this Draft EIR, the County's General Plan directs future growth and development in the County's unincorporated areas and establishes goals, policies, and objectives that pertain to the entire County. The current General Plan, adopted in 1980, does not include a specific element addressing air quality issues; however, goals and policies designed to improve air quality are provided and call for reductions in air emissions, reduced commuting distances, improved public transit and other alternative transportation methods, energy conservation, and the use of alternative energy sources.

As also discussed further in **Section 5.11**, Land Use and Planning, of this EIR, the County circulated a draft General Plan update, entitled Los Angeles County General Plan 2035 (Draft General Plan), in January 2014 and a Draft EIR addressing the Draft General Plan in June 2014. This Draft General Plan contains a new Air Resources Element that addresses air quality and related issues. Relevant goals encourage mixed-use development, the use of "green building" principles, energy and water efficiency, reducing vehicle miles traveled and vehicle trips, and promoting alternative modes of transportation.

The General Plan policy consistency analysis provided in **Section 5.11**, Land Use and Planning, of this EIR indicates the Project would be consistent with relevant General Plan polices related to air quality.

(ii) Santa Clarita Valley Area Plan: One Valley One Vision 2012

As discussed in greater detail in **Section 5.11**, Land Use and Planning, of this Draft EIR, the recently updated Santa Clarita Valley Area Plan: One Valley One Vision 2012 (Area Plan), serves as a long-term guide for development in the Santa Clarita Valley (Valley) Planning Area over the next 20 years. The Area Plan ensures consistency between the General Plans of the County and the City of Santa Clarita (City) in order to achieve common goals. The Area Plan includes several policies related to air quality within its Circulation and Conservation and Open Space Elements. These policies address the use of smart growth concepts to reduce vehicle miles traveled, trip reduction measures such as carpools and flexible work schedules/telecommuting, and alternative travel modes, including alternative fuel vehicles.

The Area Plan policy consistency analysis provided in **Section 5.11**, Land Use and Planning, of this EIR, indicates the Project would be consistent with applicable Area Plan polices related to air quality.

(2) Toxic Air Contaminants

(a) State Regulations

The California Air Toxics Program was established when the California Legislature adopted Assembly Bill (AB) 1807 to create a two-step process for risk identification and risk management to address potential health effects from exposure to toxic substances in the air.[9] In the risk identification step, CARB and OEHHA determine if a substance should be formally identified or "listed" as a TAC in California. Since inception of the program, a number of such substances have been listed.[10] In 1993, the California Legislature amended the program to identify the 189 federal hazardous air pollutants as TACs.

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce risk. Based on results of that review, CARB has promulgated a number of airborne toxic control measures, both for

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[9] *CARB, California Air Toxics Program, www.arb.ca.gov/toxics/toxics.htm, accessed March 2, 2015.*

[10] *CARB, Toxic Air Contaminant Identification List, www.arb.ca.gov/toxics/id/taclist.htm, accessed March 2, 2015.*

mobile and stationary sources.[11] For example, in 2004, CARB adopted an airborne toxic control measure to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to DPM and other TACs. The measure applies to diesel-fueled commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than five minutes at any given time.

In addition to limiting exhaust from idling trucks, CARB recently promulgated emission standards for off-road diesel construction equipment such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. This regulation aims to reduce emissions by installation of diesel particulate filters and encouraging the replacement of older, dirtier engines with newer emission controlled models. Implementation is staggered based on fleet size, with the largest operators beginning compliance in 2014.[12]

The AB 1807 program is supplemented by the AB 2588 Air Toxics "Hot Spots" program. Under this program, facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks if present. The AB 2588 program was amended by Senate Bill (SB) 1731 to require facilities that pose a significant health risk to the community to reduce their risk through implementation of a risk management plan.

CARB has published the *Air Quality and Land Use Handbook* (CARB Handbook) to serve as a general guide for considering health effects associated with siting sensitive receptors proximate to sources of TAC emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units per day, or where transport refrigeration unit operations exceed 300 hours per week); and (3) avoid

[11] *CARB, Air Borne Toxic Control Measures, www.arb.ca.gov/toxics/atcm/atcm.htm, accessed March 2, 2015.*

[12] *CARB, In-Use Off-Road Diesel Vehicle Regulation, www.arb.ca.gov/msprog/ordiesel/ordiesel.htm, last reviewed December 10, 2014, accessed March 2, 2015.*

siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines.

SCAQMD has adopted two rules to limit cancer and non-cancer health risks from facilities located within its jurisdiction. Rule 1401 (New Source Review of Toxic Air Contaminants) regulates new or modified facilities, and Rule 1402 (Control of Toxic Air Contaminants from Existing Sources) regulates facilities that are already operating. Rule 1402 incorporates requirements of the AB 2588 program, including implementation of risk reduction plans for significant risk facilities.

(b) Regional Regulations

SCAQMD has also adopted land use planning guidelines in the *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, which considers impacts to sensitive receptors from facilities that emit TAC emissions. SCAQMD's siting distance recommendations are the same as those provided by CARB (e.g., a 500-foot siting distance for sensitive land uses proposed in proximity of freeways and high-traffic roads, and the same siting criteria for distribution centers and dry cleaning facilities). SCAQMD's document also introduces land use-related policies that rely on design and distance parameters to minimize emissions and lower potential health risk. SCAQMD's guidelines are voluntary initiatives recommended for consideration by local planning agencies.

(3) Previously Adopted Plans and Mitigation

(a) Newhall Ranch RMDP/SCP and EIS/EIR

The Project Site is included in the project area for the Applicant's Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan (RMDP/SCP), shown in **Figure 3-5**, RMDP/SCP Project Area, in **Section 3.0**, Project Description, of this Draft EIR, which covers certain aspects of resource management for the Project and other nearby developments. As discussed in greater detail in **Section 4.1**, Environmental and Regulatory Setting, the RMDP component of the Newhall Ranch RMDP/SCP project is a conservation, mitigation, and permitting plan for the long-term management of sensitive biological resources and development-related infrastructure in the River and tributary drainages within the 11,999-acre Specific Plan area and along the extension of Magic Mountain Parkway through the Project Site. The SCP component of the Newhall Ranch RMDP/SCP project is a conservation and management plan to permanently protect and manage a system of preserves designed to maximize the long-term persistence of the San Fernando Valley spineflower (*Chorizanthe parryi ssp. Fernandina*) (spineflower), a federal candidate and state-listed endangered plant species. The SCP encompasses the Specific Plan area, the Valencia Commerce Center planning

area, and the Project Site, in order to conduct conservation planning and preserve design on the Project Applicant's land holdings in Los Angeles County that contain known spineflower populations.

The Newhall Ranch RMDP/SCP project was the subject of a joint Environmental Impact Statement/Environmental Impact Report (EIS/EIR) (SCH No. 2000011025) by the U.S. Army Corps of Engineers (Corps) and the California Department of Fish and Wildlife (CDFW).[13,14] At the time CDFW certified the EIR portion of the EIS/EIR in December 2010, it also adopted the Mitigation Monitoring and Reporting Plan (MMRP) for the RMDP/SCP project. This regulatory plan, required under CEQA, describes the mitigation measures, monitoring, and/or reporting plan for the Newhall Ranch RMDP/SCP project (including the Entrada South Project Site). CDFW adopted mitigation measures to reduce potential air quality impacts resulting from implementation of the Newhall Ranch RMDP/SCP project (see Mitigation Measures (MM) RMDP/SCP AQ-1 through AQ-16 in **Appendix 2A**).

(i) Newhall Ranch Section 401 Water Quality Certification

On September 14, 2012, the Los Angeles Regional Water Quality Control Board (LA Regional Water Board) approved Order No. R4-2012-0139, which includes the CWA Section 401 water quality certification and waste discharge requirements for the Newhall Ranch RMDP/SCP project.[15]

As part of both the Newhall Ranch Section 401 water quality certification and the Newhall/California Coastal Conservancy Agreement (August 6, 2012) entered into in conjunction with the Section 401 process, the Applicant's active construction sites must comply with the interim soil stabilization requirements of the Construction General Permit (Order No. 2009-0009-DWQ; NPDES No. CAS000002 adopted September 2, 2009; effective July 1, 2010), as amended or reissued, and applicable SCAQMD Rule 403 requirements. The following types of best management practices (BMPs) shall be implemented as needed during construction to provide erosion control: physical stabilization through application of hydraulic mulch, soil binders, straw mulch, bonded and stabilized fiber matrices, compost blankets, and erosion control blankets (i.e., rolled erosion control products); limiting the area and duration (<14 days) of exposure of disturbed soils; soil roughening of graded areas (through track walking, scarifying, sheepsfoot rolling, or

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[13] *Newhall Ranch Resource Management and Development Plan and Spineflower Conservation Plan, Final Joint Environmental Impact Statement and Environmental Impact Report, June 2010.*

[14] *The California Department of Fish and Game was officially renamed the California Department of Fish and Wildlife as of January 1, 2013.*

[15] *See **Appendix 2E** of this Draft EIR for a copy of Newhall's final Section 401 water quality certification (September 2012).*

imprinting) to slow runoff, enhance infiltration, and reduce erosion; vegetative stabilization through temporary seeding and mulching to establish interim vegetation; and wind erosion (dust) control through the application of water or other dust palliatives as necessary to prevent and alleviate dust nuisance. Compliance with these requirements and implementation of such BMPs would reduce Project emissions related to earthwork during construction.

d. Existing Conditions

(1) Regional Air Quality

The southern California region lies in the semi-permanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The extent and severity of the air pollution problem in the Air Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and dispersion of pollutants throughout the Air Basin, making it an area of high pollution potential.

Pollutant concentrations in the Air Basin vary with location, season, and time of day. The greatest air pollution impacts throughout the Air Basin occur from June through September. This condition is generally attributed to the large amount of pollutant emissions, light winds, and shallow vertical atmospheric mixing, which frequently reduce pollutant dispersion, thus causing elevated air pollution levels. Also, ozone concentrations tend to be lower along the coast, higher in the near inland valleys, and lower in the far inland areas of the Air Basin and adjacent desert. Over the past 30 years, substantial progress has been made in reducing air pollution levels in southern California. However, the Air Basin still fails to meet national air standards for ozone and $PM_{2.5}$. In addition, Los Angeles County still fails to meet the national air standard for lead.

SCAQMD released an Air Basin-wide air toxics study, *MATES III, Multiple Air Toxics Exposure Study* (MATES III Study), in September 2008. The MATES III Study represents one of the most comprehensive air toxics studies ever conducted in an urban environment. The Study was aimed at estimating the cancer risk from toxic air emissions throughout the Air Basin by conducting a comprehensive monitoring program, an updated emissions inventory of TACs, and a modeling effort to fully characterize health risks for those living in the Air Basin. The MATES III Study concluded that the average carcinogenic risk from air pollution in the Air Basin is approximately 1,200 in one million over a 70-year duration. Mobile sources (e.g., cars, trucks, trains, ships, aircraft, etc.) represent the greatest contributors. Approximately 85 percent of the risk is attributed to DPM emissions,

approximately 10 percent to other toxics associated with mobile sources (including benzene, butadiene, and formaldehyde), and approximately five percent of all carcinogenic risk is attributed to stationary sources (which include industries and certain businesses, such as dry cleaners and chrome plating operations).

As part of the MATES III Study, SCAQMD prepared a series of maps that show regional trends in estimated outdoor inhalation cancer risk from toxic emissions, as part of an ongoing effort to provide insight into relative risks. The maps' estimates represent the number of potential cancers per million people associated with a lifetime of breathing air toxics (24 hours per day outdoors for 70 years) in parts of the area. The MATES III map is the most recently available map to represent existing conditions near the Project area. The estimated cancer risk for the vast majority of the urbanized area within the Air Basin ranges from 251 to 3,692 cancers per million over a 70-year duration.[16] Generally, the risk from air toxics is lower near the coastline and increases inland, with higher risks concentrated near large diesel sources (e.g., freeways, airports, and ports).

In October 2014, SCAQMD released a draft MATES-IV report, which concludes that cancer risk in the Air Basin has decreased more than 50 percent between the study periods for MATES-III and MATES-IV.[17] The draft report further concludes that while DPM exposure has decreased by approximately 70 percent, DPM still dominates the overall cancer risk from air toxics, and the highest risks occur near ports and transportation corridors. Based on MATES-IV, an interactive map showing model-calculated cancer risks estimates that TAC-related cancer risk in the Project area ranges from 128 to 165 in a million.[18]

(2) Local Air Quality

Air pollutant emissions in the local vicinity are generated by stationary and area-wide sources, such as commercial and industrial activity, space and water heating, landscape maintenance, consumer products, and mobile sources primarily consisting of automobile traffic. Motor vehicles are the primary source of pollutants in the local vicinity.

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[16] *SCAQMD, Multiple Air Toxics Exposure Study III Model Estimated Carcinogenic Risk, available athttp://www3.aqmd.gov/webappl/matesiii/, accessed March 2, 2015.*

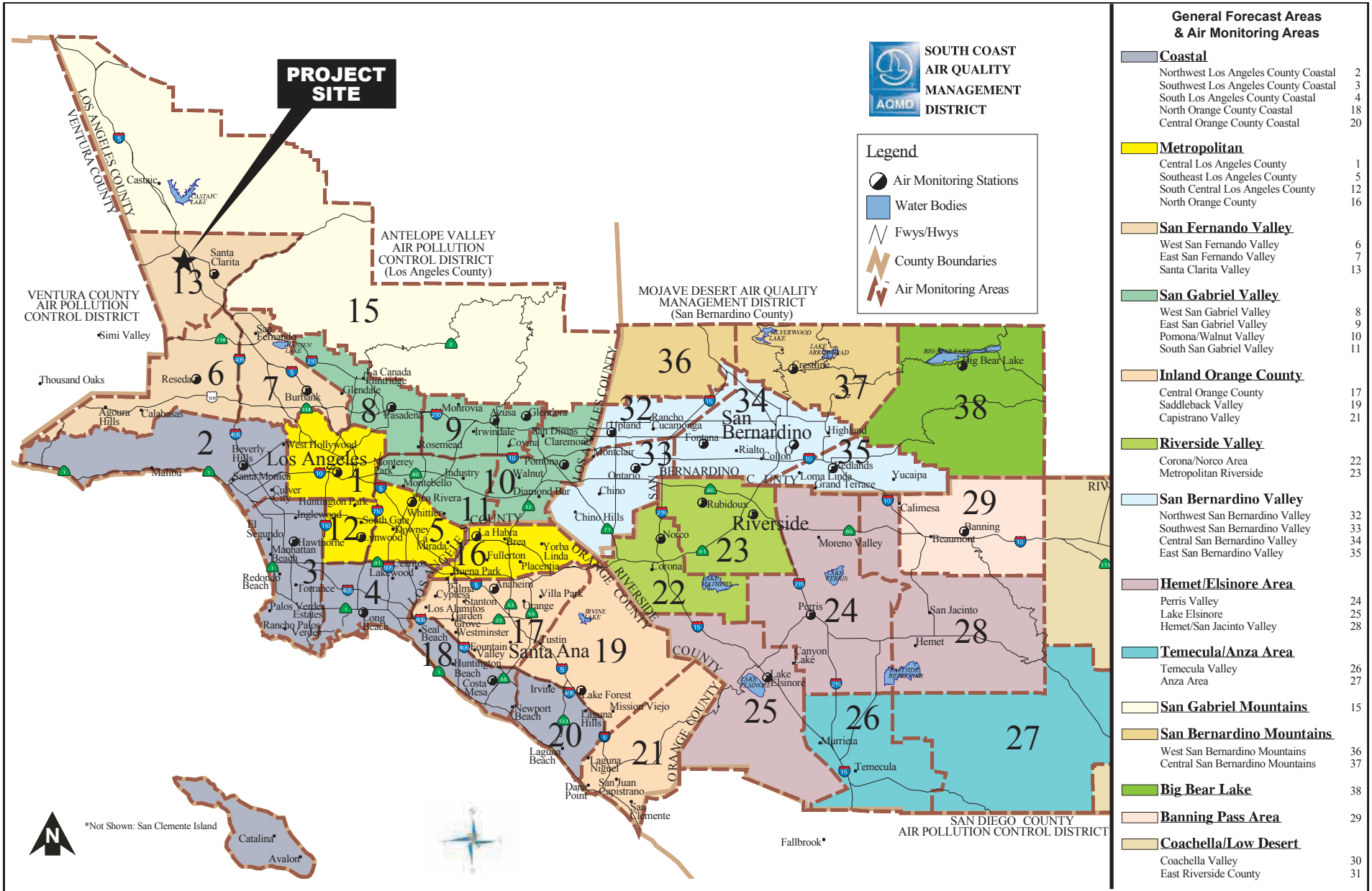
[17] *SCAQMD, MATES IV, Multiple Air Toxics Exposure Study, Draft Report, 2014, www.aqmd.gov/docs/default-source/air-quality/air-toxic-studies/mates-iv/mates-iv-draft-report-10-1-14.pdf?sfvrsn=4, accessed March 2, 2015.*

[18] *SCAQMD, Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-IV), MATES IV Interactive Carcinogenicity Map, 2014, www3.aqmd.gov/webappl/OI.Web/OI.aspx?jurisdictionID=AQMD.gov&shareID=73f55d6b-82cc-4c41-b779-4c48c9a8b15b, accessed March 2, 2015.*

(a) Existing Pollutant Levels at Nearby Monitoring Stations

SCAQMD maintains a network of air quality monitoring stations located throughout the Air Basin and has divided the Air Basin into 27 source receptor areas in which 31 monitoring stations operate. **Figure 5.3-1**, SCAQMD Source Receptor Areas, on page 5.3-20 shows the locations of the source receptor areas located within the vicinity of the Project Site. The Project Site is located within source receptor area 13, which covers the Santa Clarita Valley area. The Valley air monitoring station is the station closest to the Project Site, located at 22224 Placerita Canyon Road in Santa Clarita, approximately 4 miles southeast of the Project Site. The Valley air monitoring station measures CO, NO_2, O_3, and PM_{10} levels in the ambient air. Criteria pollutants not monitored at this station include $PM_{2.5}$ and SO_2. The most representative monitoring stations for these pollutants are West San Fernando Valley (Reseda) for $PM_{2.5}$ and East San Fernando Valley (Burbank) for SO_2. The Reseda Station is located approximately 13 miles south of the Project Site and the Burbank station is located approximately 21 miles southeast of the Project Site.

Table 5.3-2, Summary of Ambient Air Quality in the Project Vicinity, on page 5.3-21 identifies the national and state air standards for relevant air pollutants along with the ambient pollutant concentrations that have been measured at the three stations during the period of 2010 to 2012.



General Forecast Areas & Air Monitoring Areas

Coastal
- Northwest Los Angeles County Coastal 2
- Southwest Los Angeles County Coastal 3
- South Los Angeles County Coastal 4
- North Orange County Coastal 18
- Central Orange County Coastal 20

Metropolitan
- Central Los Angeles County 1
- Southeast Los Angeles County 5
- South Central Los Angeles County 12
- North Orange County 16

San Fernando Valley
- West San Fernando Valley 6
- East San Fernando Valley 7
- Santa Clarita Valley 13

San Gabriel Valley
- West San Gabriel Valley 8
- East San Gabriel Valley 9
- Pomona/Walnut Valley 10
- South San Gabriel Valley 11

Inland Orange County
- Central Orange County 17
- Saddleback Valley 19
- Capistrano Valley 21

Riverside Valley
- Corona/Norco Area 22
- Metropolitan Riverside 23

San Bernardino Valley
- Northwest San Bernardino Valley 32
- Southwest San Bernardino Valley 33
- Central San Bernardino Valley 34
- East San Bernardino Valley 35

Hemet/Elsinore Area
- Perris Valley 24
- Lake Elsinore 25
- Hemet/San Jacinto Valley 28

Temecula/Anza Area
- Temecula Valley 26
- Anza Area 27

San Gabriel Mountains 15

San Bernardino Mountains
- West San Bernardino Mountains 36
- Central San Bernardino Mountains 37

Big Bear Lake 38

Banning Pass Area 29

Coachella/Low Desert
- Coachella Valley 30
- East Riverside County 31

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Figure 5.3-1
SCAQMD Source Receptor Areas

Source: Sierra Wade Associates, 2010.

Table 5.3-2
Summary of Ambient Air Quality in the Project Vicinity

Pollutant	Year			
	2010	2011	2012	2013
Ozone (O_3)—Santa Clarita Valley				
Maximum 1-hour Concentration (ppm)	0.13	0.14	0.13	0.13
Days exceeding CAAQS (0.09 ppm)	18	31	45	30
Maximum 8-hour Concentration (ppm)	0.105	0.122	0.112	0.104
Days exceeding NAAQS (0.075 ppm)	23	30	57	40
Days exceeding CAAQS (0.07 ppm)	44	52	81	58
Respirable Particulate Matter (PM_{10})—Santa Clarita Valley				
Maximum 24-hour Concentration (µg/m^3)	40	45	37	43
Days exceeding NAAQS (150 µg/m^3)	0	0	0	0
Days exceeding CAAQS (50 µg/m^3)	0	0	0	0
Annual Arithmetic Mean (µg/m3)	21	21	20	22
Does measured AAM exceed CAAQS (20 µg/m^3)?	Yes	Yes	No	Yes
Fine Particulate Matter ($PM_{2.5}$)—East San Fernando Valley				
Maximum 24-hour Concentration (µg/m^3)	44	48	54	45
98th Percentile 24-hour Concentration (µg/m^3)	32	34	28	30
Days exceeding NAAQS (35 µg/m^3)	0	0	0	0
Annual Arithmetic Mean (µg/m^3)	13	13	12	12
Does measured AAM exceed NAAQS (12 µg/m^3)?	Yes	Yes	Yes	Yes
Does measured AAM exceed CAAQS (12 µg/m^3)?	Yes	Yes	Yes	Yes
Carbon Monoxide (CO)—Santa Clarita Valley				
Maximum 1-hour Concentration (ppm)	2	—	—	—
Days exceeding NAAQS (35.0 ppm)	0	0	0	0
Days exceeding CAAQS (20.0 ppm)	0	0	0	0
Maximum 8-hour Concentration (ppm)	1.1	0.8	1.1	0.8
Days exceeding NAAQS and CAAQS (9 ppm)	0	0	0	0
Nitrogen Dioxide (NO_2)—Santa Clarita Valley				
Maximum 1-hour CAAQS Concentration (ppm)	0.06	0.06	0.07	0.07
Days exceeding CAAQS (0.25 ppm)	0	0	0	0
Maximum 1-hour NAAQS Concentration (98th Percentile) (ppm)	0.05	0.05	0.05	0.05
Days exceeding NAAQS (0.10 ppm)	0	0	0	0
Annual Arithmetic Mean (ppm)	0.014	0.013	0.014	0.014
Does measured AAM exceed NAAQS (0.053 ppm)?	No	No	No	No
Does measured AAM exceed CAAQS (0.03 ppm)?	No	No	No	No

Table 5.3-2 (Continued)
Summary of Ambient Air Quality in the Project Vicinity

Pollutant	Year			
	2010	2011	2012	2013
Sulfur Dioxide (SO_2)—East San Fernando Valley				
Maximum 1-hour Concentration (ppm)	0.01	0.01	0.01	0.01
Days exceeding CAAQS (0.25 ppm)	0	0	0	0
Maximum 24-hour concentration (ppm)	0.004	—	—	—
Days exceeding CAAQS (0.04 ppm)	0	—	—	—
Days exceeding NAAQS (0.14 ppm)	0	—	—	—
Annual Arithmetic Mean (ppm)	—	—	—	—
Does measured AAM exceed NAAQS (0.030 ppm)?	—	—	—	—
Lead (Pb)—Santa Clarita Valley[a]				
Maximum 30-day Average Concentration (µg/m^3)	—	—	—	—
Does measured concentration exceed NAAQS (1.5 µg/m^3)	—	—	—	—
Maximum Calendar Quarter Concentration (µg/m^3)	—	—	—	—
Does measured concentration exceed CAAQS (1.5 µg/m^3)	—	—	—	—
Sulfate—East San Fernando Valley				
Maximum 24-hour Concentration (µg/m^3)	—	7.4	—	5.4
Does measured concentration exceed CAAQS (25 µg/m^3)	—	No	No	No

ppm = parts per million by volume

µg/m^3 = micrograms per cubic meter

NAAQS = National Ambient Air Quality Standard

CAAQS = California Ambient Air Quality Standard

AAM = annual arithmetic mean

— = not available

[a] *According to SCAQMD's 2012 Lead State Implementation Plan for Los Angeles County, the County will meet the NAAQS for lead by the year 2016. Lead is not measured at SCAQMD monitoring stations near the Project Site as the only exceedance of the NAAQS is at the downtown Los Angeles monitoring station as the result of a large lead-acid battery recycling facility near downtown Los Angeles.*

Source: South Coast Air Quality Management District, Historical Data by Year, www.aqmd.gov/home/library/air-quality-data-studies/historical-data-by-year, accessed February 6, 2015.

(b) Existing Health Risk in the Surrounding Area

As shown below in **Figure 5.3-2**, MATES III Total Cancer Risk for Project Area, on page 5.3-23, based on the MATES III Study, the Project Site is located within a cancer risk zone of 559 in one million over a 70-year duration; the risk in this particular zone is substantially lower than the average carcinogenic risk from air pollution in the Air

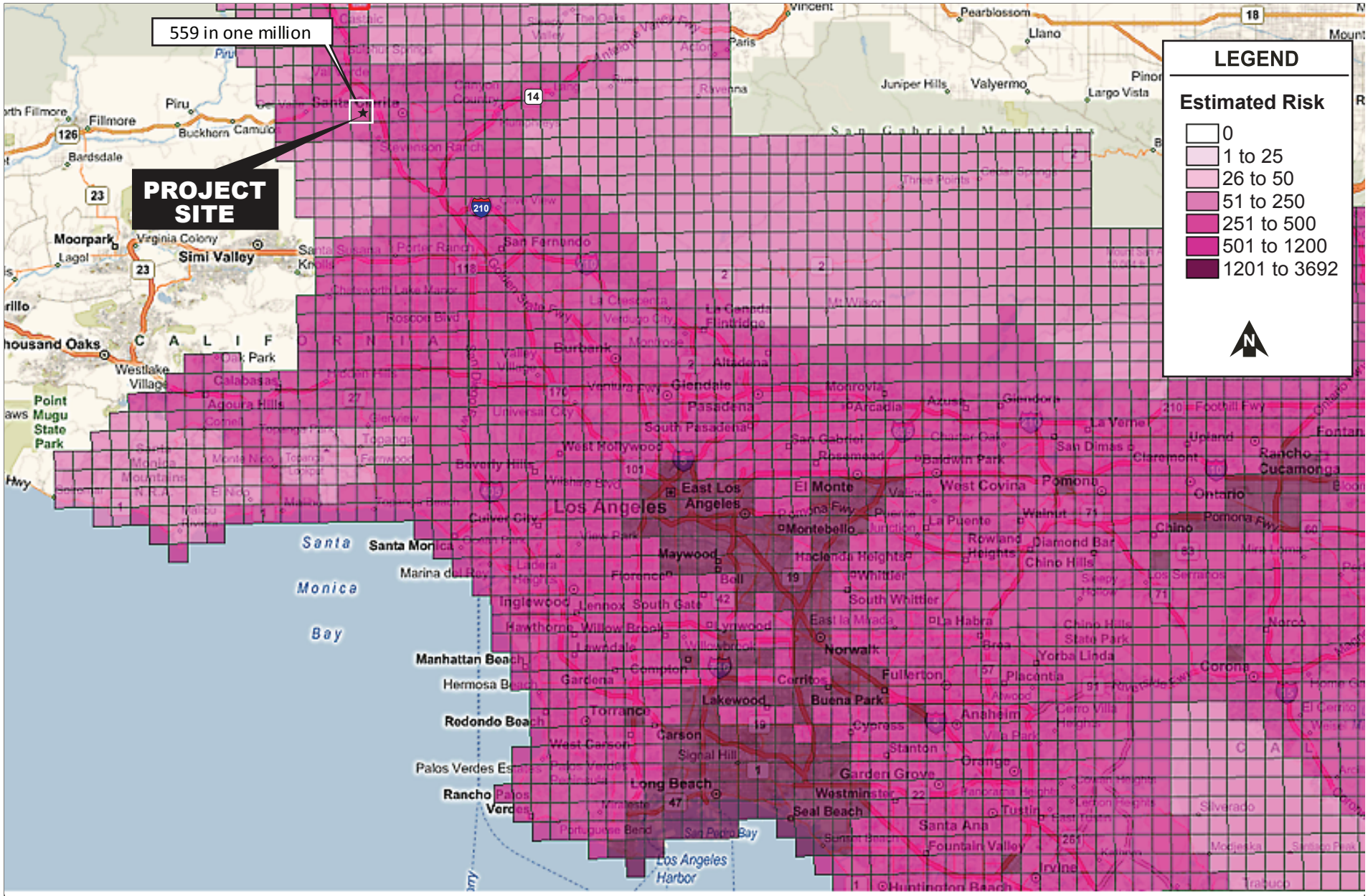

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Figure 5.3-2
MATES III Total Cancer Risk for Project Area

Source: South Coast AQMD, 2014.

Basin of approximately 1,200 in one million. The cancer risk in this area is predominately related to nearby sources of diesel particulate (e.g., Interstate 5). Note that as described in the MATES III Final Report, "the assumptions [made in the Study] are consistent with current scientific knowledge, but are often designed to be conservative and on the side of health protection in order to avoid underestimation of public health risks…Thus the risk estimates should not be interpreted as actual rates of disease in the exposed population, but rather as estimates of potential risk, based on current knowledge and a number of assumptions."[19] In general, the risk of the Project Site is lower than other urbanized areas in the central Los Angeles area that are near large diesel sources (e.g., freeways, airports, and ports). Also, note that based on the draft MATES-IV document, an interactive map showing model-calculated cancer risks estimates that TAC-related cancer risk in the Project area ranges from 109 to 134 in one million (down from the 274 to 409 in one million identified in the MATES III Study).[20]

(c) Surrounding Uses

As shown in **Figure 5.3-3**, Air Quality Sensitive Receptors Locations, on page 5.3-25, Six Flags Magic Mountain is located to the north of the central portion of the Project Site (referred to as Vesting Tentative Tract Map (VTTM) 53295) and east of the External Map Improvements that comprise the northern portion of the Project Site. The community of Westridge is located immediately south of the Project Site. In addition, the City of Santa Clarita is located to the east and is separated from the Project Site by The Old Road and I-5. Finally, vacant land within the Newhall Ranch Specific Plan area is located to the west. The approved Mission Village community within the Newhall Ranch Specific Plan area is located immediately west of the Project Site. Additionally, the proposed Legacy Village community is located to the southwest.

Some population groups including children, elderly, and acutely and chronically ill persons (especially those with cardio-respiratory diseases) are considered more sensitive to air pollution than others. Sensitive land uses in the Project vicinity discussed above are shown in **Figure 5.3-3**, Air Quality Sensitive Receptors Locations.

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[19] *SCAQMD, MATES III Final Report, 2008, www.aqmd.gov/home/library/air-quality-data-studies/health-studies/mates-iii/mates-iii-final-report, accessed March 2, 2015.*

[20] *SCAQMD, "Multiple Air Toxics Exposure Study in the South Coast Air Basin (MATES-IV)," MATES IV Interactive Carcinogenicity Map, 2014, www3.aqmd.gov/webappl/OI.Web/OI.aspx?jurisdictionID=AQMD.gov&shareID=73f55d6b-82cc-4c41-b779-4c48c9a8b15b, accessed December 15, 2014.*

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Figure 5.3-3
Air Quality Sensitive Receptors Locations

Source: Esri, i-cubed, USDA, USGS, AEX, GeoEye, Getmapping, Aerogrid, IGN, IGP, and the GIS User Community, 2014.

(d) Existing Project Site Emissions

The Project Site is generally comprised of vacant land, some agricultural uses, a small plant nursery used by the adjacent Six Flags Magic Mountain, and abandoned oil wells and associated access roads. The agricultural area comprises approximately 7.45 acres and is used as pasture and thus involves limited emissions associated with mobile sources (e.g., tractors) and motor vehicle trips to and from the Project Site. For purposes of this analysis, existing emissions conservatively were assumed to be zero. However, an estimate of these emissions is presented in **Table 5.3-3**, Estimated Daily Regional Operational Criteria Pollutant Emissions Existing Project Site Land Uses—2014 (pounds per day), below.

Table 5.3-3
Estimated Daily Regional Operational Criteria Pollutant Emissions Existing Project Site Land Uses—2014 (pounds per day)[a]

Emission Source	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Total Existing Emissions	**<1**	**1**	**<1**	**<1**	**<1**	**<1**

Numbers may not add up exactly due to rounding.

[a] *Pollutant emissions are calculated using the CalEEMod emissions model.*

Source: ENVIRON, Air Quality Report, Table ES-5, 2015.

3. ENVIRONMENTAL IMPACTS

a. Methodology

This analysis focuses on the potential change in the air quality environment due to implementation of the Project. Air pollutant emissions associated with the Project would result from construction and operation of the proposed development. Specific analysis methodologies are discussed below.

(1) Construction Emissions Methodology

(a) Regional Emissions

The Project's construction emissions were calculated using California Emissions Estimator Model (CalEEMod) Version 2013.2.2. Details of the modeling assumptions and emission factors are provided in **Appendix 5.3** of this Draft EIR. The calculations of the emissions generated by Project construction activities reflect the types and quantities of construction equipment that would be used to complete the proposed construction activities. Construction tasks were aggregated to reflect overlapping tasks and identify the maximum construction emissions occurring over the course of Project construction.

Potential air quality impacts from construction activities were evaluated at the earliest potential construction timeframe. This approach is conservative since pollutant emission factors decrease in subsequent years as newer and more efficient construction equipment and vehicles enter the fleet mix (i.e., the statewide heavy-duty construction equipment and vehicular fleet mix in future years has a better overall fuel efficiency with decreased emission factors due to more stringent regulations).

(b) Localized Emissions

The localized effects from the on-site portion of daily emissions were evaluated at off-site sensitive receptor locations potentially impacted by the Project using the USEPA's preferred regulatory dispersion model (AERMOD). AERMOD was used to evaluate the air dispersion of pollutants from the Project Site in order to evaluate compliance with SCAQMD significance thresholds related to the national and state air standards. The regulatory default option was selected based the SCAQMD modeling recommendations, which established the settings for variables such as building downwash, urban modeling dispersion option, receptor heights, off-site receptor grid spacing, and project boundary receptor spacing.[21] The air dispersion model was run using a unit emission factor approach except for the NO_2 modeling, which uses actual emission rate and the Plume Volume Molar Ratio Method (PVMRM). Modeling parameters are set forth in detail in **Appendix 5.3** of this Draft EIR.

In order to evaluate the impact of Project construction on new on-site residents, the localized effects from the on-site portion of daily emissions were evaluated according to SCAQMD's localized significance thresholds (LSTs) methodology, which uses on-site mass emissions rate look-up tables and Project-specific modeling, where appropriate.[22] SCAQMD provides LSTs applicable to the following criteria pollutants: NO_X, CO, PM_{10}, and $PM_{2.5}$.[23] LSTs represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable national or state air standard, and are developed based on the ambient concentrations of that pollutant for each source receptor area and distance to the nearest sensitive receptor. For PM_{10} and

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[21] *SCAQMD, SCAQMD Modeling Guidance for AERMOD, 2005, www.aqmd.gov/home/library/air-quality-data-studies/meteorological-data/modeling-guidance, accessed March 2, 2015.*

[22] *SCAQMD, LST Methodology Appendix C-Mass Rate LST Look-up Table, www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/appendix-c-mass-rate-lst-look-up-tables.pdf?sfvrsn=2, revised October 2009, accessed March 2, 2015.*

[23] *SCAQMD does not provide an LST for SO_2, since land use development projects typically result in negligible construction and long-term operation emissions of this pollutant. Also, since VOCs are not a criteria pollutant, there is no ambient standard or SCAQMD LST for VOCs. Due to the role VOCs play in ozone formation, however, it is classified as a precursor pollutant, and a regional emissions threshold has been established.*

$PM_{2.5}$, LSTs were derived based on requirements in SCAQMD Rule 403, Fugitive Dust. The mass rate look-up tables were developed for each source receptor area and can be used to determine whether or not a project may generate significant adverse localized air quality impacts. SCAQMD provides LST mass rate look-up tables for projects with active construction areas that are less than or equal to five acres. As a conservative approximation, the mass rate look-up tables for a five-acre site were used for this analysis.

(2) Operational Emissions Methodology

(a) Regional Emissions

Analysis of the Project's potential impact on regional air quality during long-term Project operations (i.e., after construction is complete) looks at three types of sources: (1) mobile; (2) area; and (3) energy. Mobile source emissions are generated by motor vehicle trips to and from the Project Site associated with operation of the Project. Area source emissions are generated by, among other things, landscape and maintenance equipment, and the use of consumer products. Energy source emissions are generated as a result of activities in buildings for which natural gas is used (e.g., natural gas for heat or cooking).

Similar to construction, regional operational emissions were calculated with SCAQMD's CalEEMod (Version 2013.2.2) software. A detailed discussion of the methodology is provided in **Appendix 5.3** of this Draft EIR.

(b) Localized Emissions

The general procedure for evaluating localized impacts from Project operations is to evaluate any new or modified stationary combustion sources and to study the likely effect on CO concentrations of induced traffic at nearby intersections.

Effects related to the operation of stationary-source combustion equipment associated with the Project are evaluated by conducting a qualitative screening-level analysis. The screening-level analysis consists first of reviewing the Project to identify any new or modified stationary-source combustion equipment. Then, if such equipment is identified, the potential significance of its impact is evaluated qualitatively in light of applicable regulations and operating parameters. The Project did not undergo an evaluation of ambient air impacts for operational emissions because the Project does not

include any of the land uses that typically require such an analysis to be performed based on SCAQMD's methodology.[24]

(3) Toxic Air Contaminants Impacts (Construction and Operations)

Potential TAC impacts are evaluated by conducting a qualitative screening-level analysis. The screening-level analysis consists of reviewing the Project to identify any new or modified TAC emissions sources. A detailed assessment of potential Project TAC emissions during construction was conservatively included due to the use of heavy-duty construction equipment and the overall length of proposed construction activities. However, a qualitative screening-level analysis was sufficient to address Project operations since there are only minimal sources of TAC emissions that are not expected to trigger any risk thresholds.

(4) Odor Impacts (Construction and Operations)

Potential odor impacts are evaluated by conducting a screening-level analysis followed by a more detailed analysis (i.e., dispersion modeling) as necessary. The screening-level analysis consists of reviewing the Project to identify new or modified odor sources. If the qualitative evaluation does not rule out significant impacts from a new source, or modification of an existing odor source, a more detailed analysis is conducted. If so, then downwind sensitive receptor locations are identified, and site-specific dispersion modeling is conducted to estimate Project impacts. For this Project, the screening-level analysis is sufficient.

b. Project Design Elements/Project Design Features

The Project would create a self-sustaining, mixed-use community comprised of mutually supportive land uses that offer housing, employment, shopping, recreation, and other community-serving activities of a quality consistent with the high design standards of the existing Valencia community. Specifically, the Project includes 339 single-family units, 1,235 multi-family units, and 730,000 square feet of commercial uses anticipated to be comprised of approximately 435,000 square feet of office uses and about 295,000 square feet of commercial retail uses. In addition, the Project includes a 9.4-acre elementary school, a 5.6-acre public neighborhood park, 101.7 acres of open space, two private recreational centers within 2.9 acres, and a 27.2-acre preserve for spineflower.[25] Facilities

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[24] *SCAQMD, Final Localized Significance Threshold Methodology, Revised July 2008, www.aqmd.gov/docs/default-source/ceqa/handbook/localized-significance-thresholds/final-lst-methodology-document.pdf?sfvrsn=2, accessed March 2, 2015.*

[25] *Open space acreage refers to lots within the tract map designated as open space. Additional open space areas, such as natural drainage courses, roadway medians, and landscaped parkways adjacent to on-site*

(Footnote continued on next page)

and infrastructure proposed as part of the Project consist of a network of roads and trails, drainage and water quality improvements, dry utilities systems, a potable water system, a recycled water system, and a sanitary sewer system.

The Project is designed to accommodate regional growth projected by SCAG for the Santa Clarita Valley Planning Area and northern Los Angeles County within an infill site adjacent to existing, approved, or planned infrastructure, urban services, transportation corridors, transit facilities, and major employment centers in furtherance of SB 375 policies. Related to this effort, the Project design utilizes numerous sustainability principles, including an appropriate mix of land uses, employment generation, design features to reduce vehicle miles traveled and commuting distances, access to transit, the provision of open space and recreational amenities, trail connectivity, the preservation of natural areas, water and energy conservation, efficient interior climate control, and the incorporation of green building techniques.

Further, based on a review of the Project's attributes, it was determined that the Project incorporates several transportation-related reduction strategies for greenhouse gas (GHG) emissions provided in the California Air Pollution Control Officers Association's (CAPCOA) 2010 guidance, titled *Quantifying Greenhouse Gas Mitigation Measures*. (See Table 1 in Appendix D of the GHG Report, a copy of which is located in **Appendix 5.7** of this Draft EIR.) A summary of the applicable CAPCOA strategies is provided in **Section 5.7**, Greenhouse Gas Emissions, of the Draft EIR. The quantitative benefits of these reduction strategies are incorporated into this air quality analysis, consistent with the general principle that reductions in GHG emissions often result in co-benefits in the form of reductions in other air emissions (and vice versa).

A description of specific Project features or elements and regulatory compliance measures relevant to air quality to be implemented as part of the Project is provided below.

(1) Regulatory Compliance Measures

The Project would comply with all applicable regulatory standards. Implementation of the following regulatory compliance measures, as currently required and/or as may be amended in the future, is intended to preclude or reduce impacts related to air quality:

roadways, in addition to the proposed park, recreation centers, and Spineflower Preserve, bring the total open space area to approximately 153 acres.

(a) Construction

- In accordance with SCAQMD Rule 403 for Large Operations, the Project shall incorporate fugitive dust control measures that are at least as effective as the following measures:
  - Use of watering to control dust generation and watering active construction areas and unpaved roads at least three times daily to minimize fugitive dust emissions;
  - Use of watering and/or street sweeping for on-site paved roads used for construction activities;
  - Vehicle speeds shall be limited to 15 miles per hour or less in staging areas and on-site haul roads;
  - Clean-up mud and dirt carried onto paved streets from the site;
  - Install wheel washers for all exiting trucks, or wash off the tires or tracks of all trucks and equipment leaving the site;
  - All haul trucks shall be covered or maintain at least 6 inches of freeboard;
  - All materials transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of spillage or dust; and
  - Suspend earthmoving operations or additional watering to meet Rule 403 criteria if wind gusts exceed 25 mph.
- In accordance with Section 2485 in Title 13 of the California Code of Regulations (CCR), the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location.
- In accordance with Section 93115 in CCR Title 17, operation of any stationary, diesel-fueled, compression-ignition engines shall meet specified fuel and fuel additive requirements and emission standards.
- The Project shall comply with SCAQMD Rule 1113 limiting the volatile organic compound content of architectural coatings.

(b) Operation

- The Project shall install odor-reducing equipment where applicable in accordance with SCAQMD Rule 1138.

- The Project shall meet the Statewide 2013 Building Efficiency Standards, formally known as CCR Title 24, Part 6. (The Project shall currently meet the 2013 Title 24 standards. However, the Title 24 standards are revisited by the California Energy Commission (CEC) on a three-year cycle and are becoming increasingly efficient, particularly in light of the expressed desire of the CEC and CARB to achieve zero net energy by 2020 for residential buildings and by 2030 for commercial buildings. Should an updated version of the Title 24 standards be adopted prior to the filing of building permit applications, the standards in effect at that time shall apply.)

(2) Project Design Features

In addition to the regulatory compliance measures described above, a number of Project design features (PDFs) have been incorporated into the Project's design and are relevant to this air quality analysis. Specifically, PDF ES 5.7-1 through PDF ES 5.7-8, provided in **Section 5.7**, Greenhouse Gas Emissions, of this Draft EIR have been incorporated into the Project's design, quantitatively and/or qualitatively factored into the air quality analysis (consistent with the parameters provided in **Section 5.7**, Greenhouse Gas Emissions), and will be included in the MMRP to ensure implementation. In particular, PDF ES 5.7-4 through PDF ES 5.7-7, which collectively comprise the Project's Transportation Demand Management (TDM) program will help reduce trip generation during Project operations, as discussed further in **Section 5.20**, Transportation/Traffic, of this Draft EIR.

(3) Regulatory Measures—Non-Quantified Reductions

A few regulations adopted at the federal and/or state level were not incorporated into the Project's emissions modeling due to the difficulty in quantifying the reductions attributable to implementation of the regulatory compliance measures. These include:

- Heavy-Duty Engines and Vehicles Fuel Efficiency Standards adopted by the USEPA and the National Highway Traffic Safety Administration (NHTSA) for model year 2014-2018 as described in Section 2.2.1.

- The Pavley regulation mandating higher fuel efficiency standards for cars and light-duty vehicles and the Advanced Clean Cars regulation are not included in the vehicle emissions estimate for the Project since CalEEMod™ does not incorporate this benefit for criteria pollutant emissions.

Incorporation of these regulatory compliance measures, which are applicable to the Project, into the emissions modeling would further reduce the Project's emissions.

c. Significance Thresholds

Based on Appendix G of the CEQA Guidelines and other relevant criteria, the Los Angeles County Department of Regional Planning has determined that a project would have a potentially significant impact related to air quality based on the following criteria:

Threshold 5.3-1: Would the project expose sensitive receptors to substantial pollutant concentrations?

Threshold 5.3-2: Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Threshold 5.3-3: Would the project increase local emissions to a significant extent due to increased traffic congestion or use of a parking structure or exceed SCAQMD thresholds of potential significance?

Threshold 5.3-4: Would the project create objectionable odors affecting a substantial number of people?

Threshold 5.3-5: Would the project conflict with or obstruct implementation of the applicable air quality plan of the South Coast AQMD (SCAQMD)?

Threshold 5.3-6: Would the 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

SCAQMD's significance thresholds are provided in their *CEQA Air Quality Handbook* and include the following established thresholds to assess the regional and localized impacts of Project-related air pollutant emissions:

- Regional construction emissions from both direct and indirect sources are significant if they would exceed any of the following SCAQMD prescribed threshold levels: (1) 100 pounds per day for NO_X; (2) 75 pounds per day for VOC; (3) 150 pounds per day for PM_{10} or SO_X; (4) 55 pounds per day $PM_{2.5}$; and (5) 550 pounds per day for CO.

- Regional operational emissions are significant if they would exceed any of the following SCAQMD prescribed threshold levels: (1) 55 pounds a day for NO_X, VOC, or $PM_{2.5}$; (2) 150 pounds per day for PM_{10} or SO_X; and (3) 550 pounds per day for CO.

- Maximum on-site daily localized emissions are significant if they exceed the LSTs, resulting in predicted ambient concentrations in the vicinity of the Project Site greater than the most stringent national or state air standards for CO (20 ppm [23,000 µg/m^3] over a 1-hour period or 9.0 ppm [10,350 µg/m^3]

averaged over an 8-hour period) and NO_2 (0.18 ppm [338.4 µg/m^3] over a 1-hour period, 0.1 ppm [188 µg/m^3] over a three-year average of the 98th percentile of the daily maximum 1-hour average, or 0.03 ppm [56.4 µg/m^3] averaged over an annual period).

- Maximum on-site localized PM_{10} or $PM_{2.5}$ emissions during construction are significant if they would be greater than the applicable LSTs, resulting in predicted ambient concentrations in the vicinity of the Project Site that exceed the incremental 24-hr threshold of 10.4 µg/m^3 for construction and 2.5 µg/m^3 for operations or 1.0 µg/m^3 PM_{10} averaged over an annual period.

- Impacts are significant if either of the following conditions would occur at an intersection or roadway within one-quarter mile of a sensitive receptor:

  - The Project would cause or contribute to an exceedance of the state 1-hour or 8-hour CO standards of 20 or 9.0 ppm, respectively; or

  - The incremental increase due to the Project would be equal to or greater than 1.0 ppm for the state 1-hour CO standard, or 0.45 ppm for the 8-hour CO standard.

- Impacts are significant if the Project would create an odor nuisance pursuant to SCAQMD Rule 402 (i.e., objectionable odor at the nearest sensitive receptor).

- Impacts are significant if the Project emits carcinogenic or TACs that exceed the maximum incremental cancer risk of 10 in one million or an acute or chronic hazard index of 1.0.[26] For projects with a maximum incremental cancer risk between 1 in one million and 10 in one million, a project results in a significant impact if the cancer burden exceeds 0.5 excess cancer cases.

- Hazardous materials associated with on-site stationary sources are significant if they result in an accidental release of air toxic emissions or acutely hazardous materials posing a threat to public health and safety.

- Impacts are significant if the Project would be occupied primarily by sensitive land uses (e.g., residential uses, hospital, school) within a quarter mile of any existing facility that emits air toxic contaminants which could result in a health risk for pollutants identified in SCAQMD Rule 1401.

[26] *Hazard index is the ratio of a toxic air contaminant's concentration divided by its reference concentration, or safe exposure level. If the hazard index exceeds one, people are exposed to levels of TACs that may pose non-cancer health risks.*

d. Analysis of Project Impacts

Threshold 5.3-1: Would the project expose sensitive receptors to substantial pollutant concentrations?

Threshold 5.3-2: Would the project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

Threshold 5.3-3: Would the project increase local emissions to a significant extent due to increased traffic congestion or use of a parking structure or exceed SCAQMD thresholds of potential significance?

(1) Construction

(a) Regional Construction Impacts

The Project may be built out in phases or all at once. Given the size of the Project, the adjacent developed areas, and existing infrastructure, it is likely that the Project Site would be mass graded all at one time to allow for construction of secondary access and utilities. Project grading would require the removal and recompaction of approximately 7.8 million cubic yards of existing material, including the movement of approximately 400,000 cubic yards from a borrow site within the External Map Improvements area, in a balanced cut and fill operation. In addition to mass grading and fine grading, remedial grading of approximately 2.0 million cubic yards of material may also be required depending upon site-specific soils and future geotechnical investigations. Actual development of the proposed land uses would be based on market conditions and adjacent development. Based on current projections, construction activities are expected to occur over a nine-year duration and be completed by 2024.

Project construction would have the potential to create air quality impacts through the use of heavy-duty construction equipment and through vehicle trips generated by construction workers traveling to and from the Project Site. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of operation and, for dust, the prevailing weather conditions. In general, fugitive dust emissions would result from grading activities. Mobile source emissions, primarily NO_X, would result from the use of construction equipment such as dozers, loaders, and cranes. During the finishing phase of a building, the application of architectural coatings (e.g., paints) and other building materials would have the potential to release VOCs. The assessment of construction air quality impacts considers each of these potential sources.

In order to provide a conservative analysis, it was assumed that all construction activities would be completed within the minimum timeframe anticipated for construction, which provides for the maximum overlap of construction components within the Project's overall development period. Additional details of construction activities (i.e., site

preparation/grading, and building construction/finishing) and the equipment that would be used during Project construction are provided in **Appendix 5.3** of this Draft EIR.

The emissions levels in **Table 5.3-4**, Project Estimate of Regional Construction Emissions (pounds per day), below represent the highest daily emissions projected to occur on any one day of construction per construction year. As presented in **Table 5.3-4**, Project Estimate of Regional Construction Emissions (pounds per day), construction-related daily maximum emissions would not exceed the SCAQMD daily significance thresholds for CO, SO_X, PM_{10}, or $PM_{2.5}$. However, construction-related daily maximum emissions would exceed the SCAQMD daily significance thresholds for VOC and NO_X. Therefore, regional construction emissions resulting from Project development would result in a significant short-term impact.

Table 5.3-4
Project Estimate of Regional Construction Emissions (pounds per day)[a]

Construction Year	VOC[b]	NO_X	CO	SO_X	PM_{10}[c]	$PM_{2.5}$[c]
2015	3	32	23	<1	15	3
2016	24	286	176	<1	81	21
2017	119	50	50	<1	32	6
2018	118	30	40	<1	5	3
2019	119	34	61	<1	9	4
2020	121	40	90	<1	15	5
2021	117	21	33	<1	4	2
2022	116	18	23	<1	2	1
2023	116	16	21	<1	2	1
2024	116	15	23	<1	2	1
Maximum Emissions	121	286	176	<1	81	21
SCAQMD Daily Significance Thresholds	**75**	**100**	**550**	**150**	**150**	**55**
Over/(Under)	**46**	**186**	**(374)**	**(150)**	**(69)**	**(34)**
Exceed Threshold?	**Yes**	**Yes**	**No**	**No**	**No**	**No**

[a] *Emission quantities are rounded to "whole number" values. As such, the "total" values presented herein may be one unit more or less than actual values. Exact values (i.e., non-rounded) are provided in the calculation worksheets that are presented in **Appendix 5.3** of this Draft EIR.*

[b] *Note the SCAQMD significance threshold is expressed in terms of VOC, and CalEEMod calculates Reactive Organic Gas (ROG) emissions. VOC and ROG are used interchangeably for purposes of this analysis since ROG represents approximately 99.9 percent of VOC emissions.*

[c] *PM_{10} and $PM_{2.5}$ emissions estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression.*

Source: ENVIRON, Air Quality Report, Table ES-1, 2015.

(b) Localized Construction Impacts

A conservative estimate of on-site daily emissions for on-site criteria pollutants was compiled for maximum daily construction activities. Consistent with SCAQMD's LSTs methodology, AERMOD was used to evaluate the air dispersion of pollutants from the Project Site to evaluate whether localized impacts would exceed SCAQMD localized significance thresholds. Please refer to **Appendix 5.3** for a detailed discussion of the air dispersion modeling results.

The maximum potential localized pollutant concentrations from Project construction and SCAQMD localized thresholds are presented in **Table 5.3-5**, Project Estimate of Localized Construction Impacts at Off-Site Receptors (Residential/Sensitive) ($\mu g/m^3$), on page 5.3-38. As presented therein, maximum localized construction emissions for off-site sensitive receptors would not exceed the SCAQMD localized significance thresholds for NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$. Therefore, daily localized construction emissions resulting from on-site construction activities would result in a less-than-significant, short-term impact.

Table 5.3-5
Project Estimate of Localized Construction Impacts at Off-Site Receptors (Residential/Sensitive)
(µg/m^3)

Pollutant	Averaging Time	Maximum Impact from Project Emissions Impact (µg/m^3)	Background Pollutant Concentration[b] (µg/m^3)	Maximum Project + Background Concentration (µg/m^3)	SCAQMD Significance Threshold[c] (µg/m^3)	Exceed Threshold?
NO_2[a]	1-Hour (NAAQS—98th percentile, averaged over 3 years)	23	121	144	188	No
	1-Hour	49	164	213	339	No
	Annual	1.7	37	39	57	No
CO	1-Hour	32	2,292	2,324	23,000	No
	8-Hour	15	1,261	1,276	10,000	No
SO_2[d]	1-Hour	0.045	39	39	196	No
	24-Hour	0.005	14	14	105	No
PM_{10}	24-Hour	2.5	N/A	N/A	10.4	No
	Annual	0.5	N/A	N/A	1.0	No
$PM_{2.5}$	24-Hour	0.5	N/A	N/A	10.4	No

NAAQS = National Ambient Air Quality Standard

[a] *The modeling analysis for NO_2 was performed using the Plume Volume Molar Ratio Method.*

[b] *Existing background concentrations for SO_2 are based upon the concentration measured at the nearest air monitoring stations between 2010 and 2012. Existing background concentrations for NO_2 are based upon the concentration measured at the same station, but for years 2005-2009, to be consistent with the ozone data used in the air dispersion modeling. For the 1-hour NO_2 NAAQS, the background is conservatively estimated as the yearly average of the 98th percentile 1-hour concentrations available from 2005-2009.*

[c] *SCAQMD significance thresholds, www.aqmd.gov/docs/default-source/ceqa/handbook/scaqmd-air-quality-significance-thresholds.pdf?sfvrsn=2, accessed March 6, 2015. The SCAQMD localized threshold for NO_X was supplemented to account for the recently adopted 1-hour NO_2 NAAQS of 188 µg/m^3. In addition, the PM_{10} and $PM_{2.5}$ significance thresholds are project-increment thresholds and do not account for background concentrations.*

[d] *The 1-hour SO_2 threshold reflects the more stringent NAAQS standard.*

Source: ENVIRON, Air Quality Report, Table ES-2, 2015.

(c) Toxic Air Contaminants

The greatest potential for TAC emissions during construction would be from diesel particulate emissions associated with heavy equipment operations. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to

concentrations of TACs over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

An assessment of diesel particulate emissions was conducted to assess this potential risk using the same assumptions used for the localized analysis discussed above. As such, this analysis includes all diesel exhaust emissions associated with on-site activity during the construction period. The results of this analysis for the construction of the Project yield a maximum incremental increase in offsite individual cancer risk of 0.6 in a million as a result of construction amortized over 70 years, consistent with SCAQMD methodology. The chronic hazard index is approximately 0.02 and is less than SCAQMD's significance threshold of 1.0. Please refer to **Appendix 5.3** for a detailed discussion of the construction-related health risk assessment results. As the Project would not emit carcinogens or TACs that individually or collectively exceed the maximum individual cancer risk of ten in one million, Project-related toxic emission impacts from construction activities would be less than significant, and no mitigation would be required.

(2) Operational Impacts

(a) Regional Operational Impacts

As discussed above, CalEEMod was used to calculate regional emissions attributable to mobile sources, on-road fugitive dust, architectural coatings, consumer products, natural gas fire places, landscape equipment, and energy use. Regional emissions resulting from operation of the Project are provided in **Table 5.3-6**, Regional Operational Emissions—Buildout (pounds per day), on page 5.3-40 for the Project. As shown in **Table 5.3-6**, Regional Operational Emissions—Buildout (pounds per day), the Project's operational emissions would exceed SCAQMD regional significance thresholds for VOC, NO_X, CO, PM_{10} and $PM_{2.5}$. Therefore, air quality impacts from Project operational emissions would be significant.

Notably, vehicular trips (mobile sources) are the primary source of operational emissions. Vehicular emissions are expected to gradually decline in the future as cars become more fuel efficient due to existing regulations (i.e., Pavley Standard and the Advanced Clean Cars program).[27] Additionally, the Project incorporates TDM programs to help reduce trip generation. The mixed-use design of the Project will also help reduce total

[27] *This analysis does not quantify emissions reduction from the Pavley Standard or the Advanced Clean Cars program, which are expected to reduce the emissions estimated from mobile sources.*

Table 5.3-6
Regional Operational Emissions—Buildout (pounds per day)[a]

Emission Source	VOC[b]	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Project with Project Design Features						
Area	97	22	139	<1	2	2
Energy	<1	7	3	<1	<1	<1
Mobile	87	222	984	4	255	72
Subtotal	**185**	**252**	**1,127**	**4**	**258**	**75**
SCAQMD Significance Threshold	**55**	**55**	**550**	**150**	**150**	**55**
Exceed Threshold?	**Yes**	**Yes**	**Yes**	**No**	**Yes**	**Yes**

Numbers may not add up exactly due to rounding.

[a] *Area, Energy, and Mobile emissions are calculated using the CalEEMod emissions model.*

[b] *Please note that SCAQMD's significance threshold is in terms of VOC and CalEEMod calculates ROG emissions. VOC and ROG are used interchangeably, for purposes of this analysis, since ROG represents approximately 99.9 percent of VOC emissions.*

Source: ENVIRON, Air Quality Report, Table ES-3, 2015.

vehicle miles traveled by shortening potential trips. The VOC emissions are primarily due to the consumer products that are expected to be used by residents in the Project.

(b) Localized Operational Impacts

Based on the analysis presented below, a CO "hot spots" analysis is not needed to determine whether the change in the level of service (LOS) of an intersection in the Project area would have the potential to result in exceedances of the national or state air standards.

It has long been recognized that CO exceedances are caused by vehicular emissions, primarily when idling at intersections.[28,29,30] Accordingly, vehicle emissions standards have become increasingly more stringent. Before the first vehicle emission regulations, cars in the 1950s were typically emitting about 87 grams of CO per mile.[31]

[28] *USEPA, Air Quality Criteria for Carbon Monoxide, EPA 600/P-099/001F, 2000.*

[29] *SCAQMD, CEQA Air Quality Handbook, Section 4.5, 1993. www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook, March 2, 2015.*

[30] *SCAQMD, Air Quality Management Plan, 2003.*

[31] *USEPA website, http://yosemite.epa.gov/R10/airpage.nsf/webpage/Milestones+in+Auto+Emissions+Control, accessed March 2, 2015.*

Since the first regulation of CO emissions from vehicles (model year 1966) in California, vehicle emissions standards for CO applicable to light duty vehicles have decreased by 96 percent for automobiles, and new cold weather CO standards have been implemented, effective for the 1996 model year.[32,33,34] Currently, the state air standard for CO is a maximum of 3.4 grams/mile for passenger cars (with provisions for certain cars to emit even less).[35] With the turnover of older vehicles, introduction of cleaner fuels and implementation of control technology on industrial facilities, CO concentrations in the Air Basin have steadily declined.

The analysis prepared for CO attainment in the Air Basin by the SCAQMD can be used to assist in evaluating the potential for CO exceedances. More specifically, CO attainment was thoroughly analyzed as part of SCAQMD's 2003 AQMP and the 1992 Federal Attainment Plan for Carbon Monoxide (1992 CO Plan).[36] As discussed in the 1992 CO Plan, peak CO concentrations in the Air Basin are due to unusual meteorological and topographical conditions, and not due to the impact of particular intersections. Considering the region's unique meteorological conditions and the increasingly stringent CO emissions standards, CO modeling was performed as part of 1992 CO Plan and subsequent plan updates and air quality management plans.

In the 1992 CO Plan, a CO "hot spot" analysis was conducted for four busy intersections in Los Angeles at the peak morning and afternoon time periods. The intersections evaluated included: Long Beach Boulevard and Imperial Highway (Lynwood); Wilshire Boulevard and Veteran Avenue (Westwood); Sunset Boulevard and Highland Avenue (Hollywood); and La Cienega Boulevard and Century Boulevard (Inglewood). The busiest intersection evaluated was Wilshire Boulevard and Veteran Avenue, which has a daily traffic volume of approximately 100,000 vehicles per day. The 2003 AQMP estimated that the 1-hour concentration for this intersection was 4.6 ppm, which indicates that the most stringent 1-hour CO standard (20.0 ppm) would likely not be exceeded until the daily traffic at the intersection exceeds more than 400,000 vehicles per day.[37] The Los Angeles County Metropolitan Transportation Authority evaluated the LOS in the vicinity of the

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[32] *National Academy Board on Energy and Environmental Systems, Review of the 21st Century Truck Partnership, Appendix D: Vehicle Emission Regulations [excerpt from http://books.nap.edu/openbook.php?record_id=12258&page=107], 2008.*

[33] *Jason Kavanagh, Untangling U.S. Vehicle Emissions Regulations, 2008.*

[34] *California Code of Regulations Title 13, Section 1960.1(f)(2) [for 50,000-mile half-life].*

[35] *CARB website, www.arb.ca.gov/msprog/levprog/cleandoc/ldtps_clean_complete_warranty_12-10.pdf, accessed March 2, 2015.*

[36] *SCAQMD, Federal Attainment Plan for Carbon Monoxide, 1992.*

[37] *Based on the ratio of the CO standard (20.0 ppm) and the modeled value (4.6 ppm).*

Wilshire Boulevard/Veteran Avenue intersection and found it to be Level E at peak morning traffic and Level F at peak afternoon traffic.[38,39]

At buildout of the Project, the highest average daily trips at an intersection would be approximately 102,600 at the Bouquet Canyon Road & Newhall Ranch Road intersection, which is below the daily traffic volumes that would be expected to generate CO exceedances as evaluated in the 2003 AQMP.[40] This daily trip estimate is based on the peak-hour conditions of the intersection. There is no reason unique to the Air Basin's meteorology to conclude that the CO concentrations at the Bouquet & Newhall Ranch intersection would exceed the 1-hour CO standard if modeled in detail, based on the studies undertaken for the 2003 AQMP. The supporting data for this analysis is included in **Appendix 5.3**.

(c) Toxic Air Contaminants

When considering potential air quality impacts under CEQA, consideration is given to the location of sensitive receptors within close proximity of land uses that emit TACs. As previously discussed, the CARB Handbook provides recommendations regarding the siting of new sensitive land uses near potential sources of air toxic emissions (e.g., freeways, distribution centers, rail yards, ports, refineries, chrome plating facilities, dry cleaners, and gasoline dispensing facilities). SCAQMD adopted similar recommendations in its *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* (2005). Together CARB and SCAQMD guidelines recommend siting distances for both the development of sensitive land uses in proximity to TAC sources, and the addition of new TAC sources in proximity to existing sensitive land uses.

Potential sources of TACs within the Project vicinity were identified using SCAQMD's Facility Information Database search and site reconnaissance to identify potential non-permitted air toxic emitting sources (e.g., freeways, diesel trucks idling at warehouse distribution facilities in excess of 100 trucks per day). Based on this screening analysis, no substantial sources of TAC emissions within the Project vicinity were identified, and the location of the proposed residential uses, recreational areas, and elementary school would be consistent with the recommended siting distances (e.g., no sensitive

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[38] *The Metropolitan Transportation Authority measured traffic volumes and calculated the LOS for the intersection Wilshire Blvd/ Sepulveda Avenue which is a block west along Wilshire Boulevard, still east of Highway 405.*

[39] *Metropolitan Transportation Authority, 2010 Congestion Management Program for Los Angeles County, Appendix A, Exhibit 2-5 and Exhibit 2-6, http://media.metro.net/docs/cmp_final_2010.pdf, accessed March 2, 2015.*

[40] *Stantec, Traffic Impact Analysis for Entrada South Village, see **Appendix 5.20B** of this Draft EIR.*

receptors within 500 feet of a freeway) provided in the CARB and SCAQMD guidance documents discussed above. Although the Project would result in some TAC emissions, primarily from mobile source emissions, the Project would not include any substantial TAC sources as defined in the guidance documents. Therefore, TAC impacts would be less than significant.

Typical sources of acutely and chronically hazardous TACs include industrial manufacturing processes (e.g., chrome plating, electrical manufacturing, petroleum refinery). The Project would not include these types of potential industrial manufacturing process sources. It is expected that quantities of hazardous TACs located on-site would be below thresholds warranting further study under the California Accidental Release Program. As such, the Project would not release substantial amounts of toxic contaminants, and impacts on human health would be less than significant. The supporting data for this analysis is included in **Appendix 5.3**.

Threshold 5.3-4: Would the project create obnoxious odors affecting a substantial number of people?

(1) Construction

Construction operations, including asphalt paving operations, may produce perceptible odors. Dust and diesel odors are typical near construction sites. Large diesel-powered vehicles are frequently present during construction activities. Diesel exhaust from vehicles is not typically a health concern unless vehicles operate or idle in close proximity to structural air intakes, pedestrian areas, or sensitive receptors. The operation of diesel-powered construction equipment could generate nuisance diesel odors at nearby receptors.

In accordance with Section 2485 in CCR Title 13, the idling of all diesel-fueled commercial vehicles (weighing over 10,000 pounds) during construction shall be limited to five minutes at any location. With regards to the operation of any stationary, diesel-fueled, compression-ignition engines, Section 93115 in CCR Title 17 specifies fuel and fuel additive requirements and emission standards.[41] Compliance with these requirements

[41] *CARB adopts airborne toxic control measures to reduce emissions of TACs. On February 26, 2004, CARB adopted an airborne toxic control measure for stationary compression-ignition (CI) engines (17 CCR 93115) to control DPM, which was declared a TAC in 1998. The airborne toxic control measure applies to all stationary diesel-fueled engines greater than 50 brake-horsepower installed before January 1, 2005, and all new stationary diesel engines installed on or after January 1, 2005. The purpose of this ACTM is to protect public health by reducing emissions of diesel PM, with a goal of reducing overall DPM in 2020 from this source category by 80 percent from 2002 baseline emissions.*

would minimize the potential nuisance of diesel odors during construction to a less-than-significant level.

Other potential sources that may emit odors during construction activities include the use of architectural coatings and solvents. SCAQMD Rule 1113 limits the amount of VOC content from architectural coatings and solvents. As a result of the Applicant's mandatory compliance with applicable SCAQMD rules and regulations, construction activities and materials would result in less-than-significant impacts with regard to odors.

(2) Operation

The occurrence and severity of potential odor impacts depends on numerous factors. The nature, frequency, and intensity of the source, the wind speeds and direction, and the sensitivity of the receiving location each contribute to the intensity of the impact. While offensive odors rarely cause any physical harm, they can be unpleasant and cause distress among the public and generate citizen complaints. According to SCAQMD, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The Project does not include any uses identified by SCAQMD as being associated with odors; thus, odor impacts are not anticipated in conjunction with the Project.

However, the County previously approved the construction and operation of the Newhall Ranch water reclamation plan (WRP) within the Newhall Ranch Specific Plan area to the west. While this facility is not part of the Project, odors associated with the WRP could potentially affect Project uses in the event of strong westerly winds. A separate EIR (SCH No. 95011015) was prepared and certified for the WRP and addressed such impacts.[42] As discussed therein, mitigation measures would be implemented to adequately control odors, including the provision and proper monitoring of odor controlling equipment, field surveys, and compliance with SCAQMD's Regulation IX, Subpart O, *Standards of Performance for Sewage Treatment Plants*, which requires implementation of best available control technology (BACT).

Additionally, the abandoned oil wells within the Project Site are not expected to be a source of odors. The California Department of Conservation, Division of Oil, Gas and Geothermal Resource (DOGGR) regulates the abandonment of oil wells. DOGGR requires notification prior to the plugging and abandoning of any oil and gas well as part of a permit

[42] *Newhall Ranch Specific Plan and Water Reclamation Plant, Revised Draft Environmental Impact Report, March 1999.*

requirement, and the CCR incorporates the requirements for abandoning oil wells.[43,44] DOGGR must be notified at various steps during the abandonment process so that DOGGR staff can oversee the abandonment process. Upon completion of a well abandonment, DOGGR will issue a Report of Plugging and Abandonment or Report of Well Abandonment and change the well status to "Plugged and Abandoned." These requirements help ensure that abandoned oil wells are not a source of odors.

If re-abandonment of wells is required during buildout of the Project, DOGGR will ensure that state regulations are followed to minimize the potential for odors during the re-abandonment process and also once abandonment is complete. The oil well abandonment procedures may result in some odors due to the removal of oil well components (e.g., cement plugs or the casing). However, the oil well abandonment procedures are expected to be short, localized, and intermittent, and thus any resulting odors from these procedures are not expected to create odors that will impact a substantial number of people.

Threshold 5.3-5: Would the project conflict with or obstruct implementation of the applicable air quality plan of the South Coast AQMD (SCAQMD)?

As discussed above, SCAQMD and SCAG are jointly responsible for preparing the AQMP for the Air Basin. In particular, the 2012 AQMP is based on demographic growth forecasts for various socioeconomic categories (e.g., population, housing, employment by industry) developed by SCAG for their 2012 RTP, which forms part of SCAG's 2012–2035 RTP/SCS.[45] Thus, consistency with the planning assumptions contained within the RTP/SCS demonstrates consistency with SCAQMD's 2012 AQMP.

The consistency of the Project's land uses with SCAG's 2012–2035 RTP/SCS was evaluated by reference to the number of households in SCAG's traffic analysis zones for the Project Applicant's Westside area, which is defined as including the Newhall Ranch Specific Plan area, along with the adjacent Entrada South, Entrada North, Legacy Village and Commerce Center areas. Based on that evaluation (see Appendix H of the Air Quality Report), the Sustainable Communities Strategy's household data (29,776 units) is comparable to the household data (30,178 units) that represents the total amount of planned development for the Project Applicant's Westside area, all other known planned and proposed development projects, and existing land uses. Thus, the Project is consistent with SCAG's 2012–2035 RTP/SCS and would not impair the region's ability to

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[43] *See ftp://ftp.consrv.ca.gov/pub/oil/laws/PRC01.pdf, accessed March 2, 2015.*

[44] *See ftp://ftp.consrv.ca.gov/pub/oil/publications/PRC04_January_11.pdf, accessed March 2, 2015.*

[45] *SCAQMD, Final 2012 AQMP, p. 3-20, December 2012.*

achieve the SCAQMD's goals for attainment of national and state air standards because the land use development pattern proposed by the Project is in line with SCAG's 2012–2035 RTP/SCS growth patterns. Please refer to **Section 5.11**, Land Use, of this Draft EIR for further discussion of Project consistency with the 2012–2035 RTP/SCS, including relevant goals and principles. Specifically, see the SCAG Policy Consistency Analysis provided in **Appendix 5.11C** of this Draft EIR for analysis of each goal and principle.

Threshold 5.3-6 is evaluated below under Subsection 4, Cumulative Impacts.

4. CUMULATIVE IMPACTS

Threshold 5.3-6: Would the 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 (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

a. Construction

With respect to the Project's construction-period air quality emissions and cumulative Basin-wide conditions, SCAQMD has developed strategies (e.g., SCAQMD Rule 403) to reduce criteria pollutant emissions outlined in the AQMP pursuant to CAA mandates. As such, the Project would comply with the regulatory compliance measures, including the Rule 403 requirements, listed above. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, all construction projects Basin-wide would comply with these same regulatory compliance measures (e.g., SCAQMD Rule 403 compliance), and would also implement all feasible mitigation measures when significant impacts are identified.

According to SCAQMD, individual construction projects that exceed SCAQMD's recommended daily thresholds for project-specific impacts would cause a cumulatively considerable increase in emissions for those pollutants for which the Air Basin is in non-attainment. Construction-related daily emissions at the Project Site would exceed SCAQMD's regional significance thresholds for NO_X and VOC. Consequently, the Project would have a cumulative impact due to construction-related regional VOC and NO_X emissions. As Project-specific impacts with respect to all other construction-related regional emissions of criteria pollutants (i.e., CO, SO_X, PM_{10}, and $PM_{2.5}$) would be less than significant, the Project's contribution to cumulative regional air emissions of these pollutants would not be cumulatively considerable and, therefore, would be less than significant.

In terms of localized air quality concentrations concentrations of NO_2, CO, SO_2, PM_{10}, and $PM_{2.5}$, construction of the Project would have a less-than-significant impact. Therefore, according to SCAQMD's guidance, the Project's contribution to cumulative localized air quality concentrations of these pollutants would not be cumulatively considerable and, therefore, would be less than significant.

For purposes of assessing toxic emissions, the greatest potential for construction-related TAC emissions generally involves diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. As discussed above, construction of the Project would have a less-than-significant impact associated with TAC impacts because it would not exceed SCAQMD's maximum incremental cancer risk threshold or the acute/chronic hazard index threshold. Therefore, according to SCAQMD's guidance, the Project's construction-related contribution to toxic emission impacts would not be cumulatively considerable, and, therefore, would be less than significant.

Odor impacts are addressed below.

b. Operation

According to SCAQMD, if an individual project results in air emissions of criteria pollutants that exceed SCAQMD's recommended daily thresholds for project-specific impacts, then the project would also result in a cumulatively considerable net increase of these criteria pollutants. Operational emissions associated with Project build-out would exceed the SCAQMD's thresholds for VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$. Therefore, regional operational emissions of VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$ would also be significant on a cumulative basis.

With respect to TAC emissions, the Project is not a substantial source of TAC emissions, as such emissions are typically associated with large-scale industrial, manufacturing, and transportation hub facilities based on the CARB Handbook. While the Project would likely generate minimal TAC emissions related to the use of consumer products and landscape maintenance activities, among other things, these sources are regulated by CARB and SCAQMD. Pursuant to California AB 1807, which directs CARB to identify substances as TACs and adopt airborne toxic control measures to control such substances, SCAQMD has adopted numerous rules (primarily in Regulation XIV) that specifically address TAC emissions. These SCAQMD rules have resulted in and will continue to result in substantial Basin-wide TAC emissions reductions. Additionally, the Project would be consistent with the recommended screening level siting distances for TAC sources, as set forth in the CARB Handbook. In light of the above, and consistent with the SCAQMD's guidance on the assessment of cumulative impacts, the Project would not result in a cumulative impact relative to TAC emissions.

c. Odors

With respect to potential odor impacts, the Project does not have a high potential to generate odor impacts during construction or operations.[46] As discussed above, construction and operations (including the abandoned oil wells) within the Project Site are not expected to be a source of odors. Furthermore, the Project would be required by SCAQMD Rule 402 (Nuisance) to implement BACT requirements to limit potential objectionable odor impacts to a less-than-significant level. Thus, potential odor impacts from the Project are anticipated to be less than significant and, consistent with the SCAQMD approach to assessing cumulative impacts, the Project would not result in a cumulative impact for odors.

5. MITIGATION MEASURES

a. Newhall Ranch RMDP/SCP Mitigation Measures

CDFW previously adopted mitigation measures to minimize air quality impacts in connection with its adoption of the Newhall Ranch RMDP/SCP EIS/EIR. Several of the RMDP/SCP mitigation measures also apply to the Project. If the status of the RMDP/SCP EIS/EIR is unresolved or set aside in the pending litigation at the time the County considers the Project EIR for certification, this EIR recommends that the County adopt the companion Entrada South (ES) mitigation measure set forth below, as applicable, to mitigate the Project's significant air quality impacts. Those RMDP/SCP mitigation measures that are not applicable to the Project are listed in **Appendix 2B** with an explanation as to why they do not apply. Any italicized text provided in the parentheticals below provides necessary updated information and/or clarifications, as needed.

In addition to the measures listed below, MMs RMDP/SCP AQ-15 and AQ-16 (which are identical to MMs RMDP/SCP GCC-3 and GCC-4) are applicable to the Project and would be implemented via implementation of PDF ES 5.7-2, as discussed in **Section 5.7**, Greenhouse Gas Emissions, of this Draft EIR.

MM ES 5.3-1/RMDP/SCP AQ-1: Diesel-powered construction equipment shall use ultra low sulfur diesel fuel, as defined in SCAQMD Rule 431.2. *(This measure would be achieved through regulatory compliance; specifically, compliance with SCAQMD Rule 431.2 would achieve the requirements of this measure.)*

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[46] *According to the SCAQMD's CEQA Air Quality Handbook, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding.*

MM ES 5.3-2/RMDP/SCP AQ-2: Develop a Construction Traffic Emission Management Plan to minimize emissions from vehicles including, but not limited to, scheduling truck deliveries to avoid peak hour traffic conditions, consolidating truck deliveries, and prohibiting truck idling in excess of 5 minutes.

MM ES 5.3-3/RMDP/SCP AQ-3: Suspend the use of all construction equipment during first-stage smog alerts.

MM ES 5.3-4/RMDP/SCP AQ-4: Use electricity or alternate fuels for on-site mobile equipment instead of diesel equipment, to the extent feasible.

MM ES 5.3-5/RMDP/SCP AQ-5: Maintain construction equipment by conducting regular tune-ups according to the manufacturers' recommendations.

MM ES 5.3-6/RMDP/SCP AQ-6: Use electric welders to avoid emissions from gas or diesel welders, to the extent feasible.

MM ES 5.3-7/RMDP/SCP AQ-7: Use on-site electricity or alternative fuels rather than diesel powered or gasoline-powered generators, to the extent feasible.

MM ES 5.3-8/RMDP/SCP AQ-8: Prior to use in construction, the Project applicant will evaluate the feasibility of retrofitting the large off-road construction equipment that will be operating for significant periods. Retrofit technologies such as particulate traps, selective catalytic reduction, oxidation catalysts, air enhancement technologies, *etc.*, will be evaluated. These technologies will be required if they are certified by CARB and/or the USEPA, and are commercially available and can feasibly be retrofitted onto construction equipment.

MM ES 5.3-9/RMDP/SCP AQ-9: Reduce traffic speeds on all unpaved roads to 15 miles per hour or less. *(This measure would be achieved through regulatory compliance; specifically, compliance with SCAQMD Rule 403 would achieve the requirements of this measure.)*

MM ES 5.3-10/RMDP/SCP AQ-10: Water active sites at least three times daily during dry weather. *(This measure would be achieved through regulatory compliance; specifically, compliance with SCAQMD Rule 403 would achieve the requirements of this measure.)*

MM ES 5.3-11/RMDP/SCP AQ-11: Schedule construction activities that affect traffic flow to off-peak hours (e.g., between 7:00 P.M. and 6:00 A.M., and between 10:00 A.M. and 3:00 P.M.).

MM ES 5.3-12/RMDP/SCP AQ-12: Use construction equipment that complies with the requirements and compliance schedule of the adopted CARB Regulation for In-Use Off-Road Diesel Vehicles in effect at the time of use, and use Tier 1 construction equipment during all construction activities, only if Tier 2 or newer equipment is not available. *(This measure would be achieved through regulatory compliance; specifically, compliance with CARB's Regulation for In-Use Off-Road*

Diesel-Fueled Fleets would achieve the requirements of this measure. Compliance with that regulation shall be demonstrated through the fleet's receipt of a CARB-issued certificate of reported compliance. See CCR Title 13, Section 2449(l).)

MM ES 5.3-12a/RMDP/SCP AQ-12a: Construction shall be planned in such a way as to minimize heavy construction activity involving the use of diesel-fueled construction equipment within 500 meters of an occupied residence to the extent practical. Heavy construction activity that occurs within 500 meters of an occupied residence that involves the use of diesel-fueled construction equipment shall prohibit non-essential idling and shall utilize equipment certified to the Tier 2 or newer emission standard. Equipment shall be routed in such a way as to minimize travel within 500 meters of an occupied residence to the extent practical.

MM ES 5.3-13/RMDP/SCP AQ-13: Please see Mitigation Measure GCC-1 in Section 8.0. (MM RMDP/SCP AQ-13 is the same measure as GCC-1.) (*This measure is hereby modified to reference MM ES 5.7-1/ RMDP/SCP GCC-1, provided in* ***Section 5.7****, Greenhouse Gas Emissions, of this Draft EIR. This measure would be achieved through regulatory compliance; specifically, compliance with Title 24 of the California Building Code would achieve the requirements of this measure.)*

MM ES 5.3-14/RMDP/SCP AQ-14: All commercial and public buildings on the applicant's land holdings that are facilitated by approval of the proposed Project shall be designed to provide improved insulation and ducting, low E glass, high efficiency HVAC equipment, and energy efficient lighting design with occupancy sensors or equivalent to ensure that all commercial and public buildings operate at levels fifteen percent (15%) better than the standards required by the 2008 version of Title 24. Notwithstanding this measure, all nonresidential buildings shall be designed to comply with the then-operative Title 24 standards applicable at the time building permit applications are filed. For example, if new standards are adopted that supersede the 2008 Title 24 standards, the nonresidential buildings shall be designed to comply with those newer standards and, if necessary, exceed those standards by an increment that is equivalent to a 15-percent exceedance of the 2008 Title 24 standards. *(This measure would be achieved through regulatory compliance; specifically, compliance with Title 24 of the California Building Code would achieve the requirements of this measure. Note that the Project shall currently meet the Statewide 2013 Building Efficiency Standards, formally known as Title 24, Part 6, which have superseded the 2008 Title 24 standards. However, the Title 24 standards are revisited by the CEC on a three-year cycle and are becoming increasingly efficient, particularly in light of the expressed desire of the CEC and California*

Air Resources Board to achieve zero net energy by 2020 for residential buildings and by 2030 for commercial buildings. Should an updated version of the Title 24 standards be adopted prior to the filing of building permit applications, the standards in effect at that time shall apply.)

b. Entrada South Project-Level Mitigation Measures

With implementation of the mitigation measures identified above, all feasible mitigation would be implemented to reduce Project air quality impacts to the extent possible.

6. LEVEL OF SIGNIFICANCE AFTER MITIGATION

a. Construction

Implementation of the regulatory compliance measures, PDFs, and mitigation measures described above would reduce construction emissions for all pollutants. Nonetheless, the Project would exceed the SCAQMD regional significance threshold for VOC and NO_X. All other criteria pollutant emissions during construction would be less than significant. As such, construction would result in significant and unavoidable Project-level and cumulative regional impacts even with the incorporation of all feasible mitigation measures.

With respect to localized emissions from construction activities, localized impacts attributable to construction would be less than significant on a Project-level and cumulative basis. Furthermore, actual construction activities would on average occur at a somewhat reduced level compared to the maximum predicted day and would have a corresponding reduction in pollutant emissions. Therefore, the modeled set of conservative assumptions overstates the potential regional and localized impacts.

No notable impacts related to TAC emissions during construction are anticipated to occur for the Project. As such, potential impacts would be less than significant.

The Project is not anticipated to generate a substantial amount of objectionable odor emissions during construction. With mandatory compliance with SCAQMD rules, no construction activities or materials are proposed that would create objectionable odors. As such, potential impacts would be less than significant.

b. Operation

Regional operational emissions associated with Project buildout would still exceed the SCAQMD daily emission thresholds for regional VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$ after the implementation of regulatory compliance measures, PDFs, and feasible mitigation measures. Therefore, operation of the proposed Project would have a significant and unavoidable Project-level impact on regional air quality. Cumulative operational air quality impacts with regard to VOC, NO_X, CO, PM_{10}, and $PM_{2.5}$ emissions attributable to Project buildout conditions would also remain significant.

Impacts related to local CO concentrations during Project buildout operations would be less than significant on a Project-level and cumulative basis. The Project would also be consistent with the air quality policies set forth in the SCAQMD's AQMP, thereby resulting in a less than significant impact.

Project operations are not anticipated to include substantial TAC emission sources. As such, TAC impacts attributable to the Project would be less than significant on a Project-level and cumulative basis. With compliance with industry standard odor control practices and SCAQMD rules and regulations, potential odor impacts attributable to the Project would be less than significant on a Project-level and cumulative basis.