

### **3.3 AIR QUALITY**

This section describes existing air quality conditions in the planning area, a summary of applicable regulations, and an analysis of potential short-term construction and long-term operational air quality impacts of the proposed project. In addition, mitigation measures are recommended, as necessary, to reduce significant air quality impacts. The air quality calculations conducted for the project are attached as Appendix B of this EIR.

#### **3.3.1 EXISTING ENVIRONMENTAL SETTING**

Air quality is defined by the concentration of pollutants related to human health. Ambient concentrations of air pollutants are determined by the rate and location of pollutant emissions released by pollution sources, and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, ambient air quality conditions within the local air basin are influenced by such natural factors as topography, meteorology, and climate, in addition to the amount of air pollutant emissions released by existing air pollutant sources.

#### **Climate, Topography, and Meteorology**

Climate, topography, and meteorology influence regional and local ambient air quality. Southern California is characterized as a semiarid climate, although it contains three distinct zones of rainfall with coinciding floristic patterns. The region's climatic zones may be roughly defined as being coincident with its broad geographic and topographic regions of coast, mountain, and desert. Subregions within these regions consist of coastal valleys lying below the mountains, separated from the ocean shore by plateaus and low hills behind the coastline. The City of San Marcos is located in the northwestern portion of San Diego County, and within the San Diego Air Basin (Basin). The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountain ranges to the east.

The boundary of the Basin is coincident with the County boundary. The topography in the Basin region varies greatly, from beaches on the west, to mountains and then desert to the east. Much of the topography in between consists of mesas intersected by canyons. The mountains to the east inhibit the dispersal of pollutants (generated in the Basin) to the east, and help to trap them in temperature inversion layers.

The climate of the Basin is characterized by warm, dry summers and mild winters. One of the main determinants of its climatology is a semipermanent high-pressure area (the Pacific High) in the eastern Pacific Ocean. In the summer, this pressure center is located well to the north, causing storm tracks to be directed north of California. This high-pressure cell maintains clear skies for much of the year. When the Pacific High moves southward during the winter, this pattern changes, and low-pressure storms are brought into the region, causing widespread precipitation. During fall, the region often experiences dry, warm easterly winds, locally referred to as Santa Ana winds, which raise temperatures and lower

humidity, often to less than 20%. Rainfall in the Basin averages approximately 9 to 14 inches annually. The heaviest precipitation occurs in November through April. The mean annual air temperature is 62.2 degrees Fahrenheit (°F), and the mean maximum and mean minimum temperatures are 75.7°F and 48.5°F, respectively.

A dominant characteristic of spring and summer is night and early morning cloudiness, locally known as the marine layer. Low clouds form regularly, frequently extending inland over the coastal foothills and valleys. These clouds usually dissipate during the morning, and afternoons are generally clear.

A common atmospheric condition known as a temperature inversion affects air quality in the Basin. During an inversion, air temperatures get warmer rather than cooler with increasing height. Subsidence inversions occur during the warmer months (May through October) as descending air associated with the Pacific high-pressure cell comes into contact with cool marine air. The boundary between the layers of air represents a temperature inversion, which is located approximately 2,000 feet above mean sea level (AMSL) during the months of May through October and approximately 3,000 feet AMSL during the winter months of November through April. Inversion layers are important determinants of local air quality because they inhibit the dispersion of pollutants, thus resulting in a temporary degradation of air quality.

The atmospheric pollution potential of an area is largely dependent on a combination of winds, atmospheric stability, solar radiation, and terrain. The combination of low wind speeds and low-level inversions produces the greatest concentration of air pollutants. On days without inversions, or on days of winds averaging over 15 miles per hour, the atmospheric pollution potential is greatly reduced.

### **Criteria Air Pollutants**

The California Air Resources Board (ARB) and the U.S. Environmental Protection Agency (EPA) focus on the following air pollutants as indicators of ambient air quality: ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less (PM<sub>10</sub>), fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less (PM<sub>2.5</sub>), and lead (Pb). Because these are the most prevalent air pollutants known to be deleterious to human health and extensive health-effects criteria documentation is available for these pollutants, they are commonly referred to as “criteria air pollutants.”

Health-based air quality standards have been established for these pollutants by ARB at the state level and by EPA at the national level. These standards were established to protect the public with a margin of safety from adverse health impacts due to exposure to air pollution. California has also established standards for sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. A brief description of each criteria air pollutant including source types and impacts to health is provided below along with the most current monitoring station data and attainment designations for the project study areas. Table 3.3-1 presents the California Ambient Air Quality Standards (CAAQS) and the National Ambient Air Quality Standards (NAAQS).

**Table 3.3-1  
National and California Ambient Air Quality Standards**

Pollutant	Averaging Time	National <sup>a</sup>		California <sup>b</sup>
		Primary <sup>c, a</sup>	Secondary <sup>c, e</sup>	Concentration <sup>c</sup>
Ozone	1 hour	—	Same as primary standard	0.09 ppm (180 µg/m <sup>3</sup> )
	8 hour	0.075 ppm (147 µg/m <sup>3</sup> )		0.070 ppm (137 µg/m <sup>3</sup> )
Respirable particulate matter	24 hour	150 µg/m <sup>3</sup>	Same as primary standard	50 µg/m <sup>3</sup>
	Annual arithmetic mean	—		20 µg/m <sup>3</sup>
Fine particulate matter	24 hour	35 µg/m <sup>3</sup>	Same as primary standard	No separate state standard
	Annual arithmetic mean	15 µg/m <sup>3</sup>		12 µg/m <sup>3</sup>
Carbon monoxide	8 hour	9 ppm (10 mg/m <sup>3</sup> )	None	9.0 ppm (10 mg/m <sup>3</sup> )
	1 hour	35 ppm (40 mg/m <sup>3</sup> )		20 ppm (23 mg/m <sup>3</sup> )
	8 hour (Lake Tahoe)	—	—	6 ppm (7 mg/m <sup>3</sup> )
Nitrogen dioxide	Annual arithmetic mean	0.053 ppm (100 µg/m <sup>3</sup> )	Same as primary standard	0.030 ppm (57 µg/m <sup>3</sup> )
	1 hour	0.100 ppm	None	0.18 ppm (339 µg/m <sup>3</sup> )
Sulfur dioxide	24 hour	—	—	0.04 ppm (105 µg/m <sup>3</sup> )
	3 hour	—	0.5 ppm (1,300 µg/m <sup>3</sup> ) <sup>h</sup>	—
	1 hour	75 ppb	—	0.25 ppm (655 µg/m <sup>3</sup> )
Lead <sup>f</sup>	30-day average	—	—	1.5 µg/m <sup>3</sup>
	Calendar quarter	1.5 µg/m <sup>3</sup>	Same as primary standard	—
	Rolling 3-month average <sup>g</sup>	0.15 µg/m <sup>3</sup>		—
Visibility-reducing particles	8 hour	No national standards		Extinction coefficient of 0.23 per kilometer —visibility of 10 miles or more (0.07 to 30 miles for Lake Tahoe) because of particles when the relative humidity is less than 70%. Method: Beta attenuation and transmittance through filter tape.
Sulfates	24 hour			25 µg/m <sup>3</sup>
Hydrogen sulfide	1 hour			0.03 ppm (42 µg/m <sup>3</sup> )
Vinyl chloride <sup>f</sup>	24 hour			0.01 ppm (26 µg/m <sup>3</sup> )

Notes: mg/m<sup>3</sup> = milligrams per cubic meter; PM<sub>2.5</sub> = fine particulate matter with an aerodynamic resistance diameter of 2.5 micrometers or less; PM<sub>10</sub> = respirable particulate matter with an aerodynamic resistance diameter of 10 micrometers or less; ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter.

<sup>a</sup> National standards (other than those for ozone and particulate matter and those based on annual averages or annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over 3 years, is equal to or less than the standard. For PM<sub>10</sub>, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m<sup>3</sup> is equal to or less than 1. For PM<sub>2.5</sub>, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact U.S. Environmental Protection Agency for further clarification and current federal policies.

<sup>b</sup> California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1 and 24 hour), nitrogen dioxide, suspended particulate matter—PM<sub>10</sub>, PM<sub>2.5</sub>, and visibility-reducing particles—are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

<sup>c</sup> Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based on a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

<sup>d</sup> National primary standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

<sup>e</sup> National secondary standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

<sup>f</sup> The California Air Resources Board has identified lead and vinyl chloride as “toxic air contaminants” with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

<sup>g</sup> National lead standard, rolling 3-month average: final rule signed October 15, 2008.

<sup>h</sup> On June 2, 2010, the U.S. EPA established a new 1-hour SO<sub>2</sub> standard, effective August 23, 2010, which is based on the 3-year average of the annual 99th percentile of 1-hour daily maximum concentrations. EPA also proposed a new automated Federal Reference Method (FRM) using ultraviolet technology, but will retain the older parosoniline methods until the new FRM have adequately permeated State monitoring networks. The EPA also revoked both the existing 24-hour SO<sub>2</sub> standard of 0.14 ppm and the annual primary SO<sub>2</sub> standard of 0.030 ppm, effective August 23, 2010. The secondary SO<sub>2</sub> standard was not revised at that time; however, the secondary standard is undergoing a separate review by EPA. Note that the new standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the new primary national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

Source: ARB 2010.

### *Ozone (O<sub>3</sub>)*

Ozone is a colorless, odorless gas that primarily exists in the upper atmosphere (stratosphere) as the ozone layer and in the lower atmosphere (troposphere) as a pollutant. Tropospheric ozone is a principal cause of lung and eye irritation in the urban environment. It is the principal component of smog, which is formed in the troposphere through a series of reactions involving reactive organic gases (ROG<sup>1</sup>) and oxides of nitrogen (NO<sub>x</sub>) in the presence of sunlight. Therefore, ROG and NO<sub>x</sub> are precursors of ozone. ROG and NO<sub>x</sub> emissions are both considered critical in ozone formation. Control strategies for ozone have focused on reducing these emissions from vehicles, industrial processes using solvents and coatings, and consumer products. Ozone concentrations are generally greatest in the summer, when atmospheric inversions are greatest and the presence of sunlight and heat is high.

### *Particulate Matter (PM)*

PM is a complex mixture of extremely small particles and liquid droplets. PM is made up of a number of components, including acids (such as nitrates and sulfates), organic chemicals, metals, and soil or dust particles. Natural sources of particulates include windblown dust and ocean spray. Some particles are emitted directly into the atmosphere. Others, referred to as secondary particles, result from gases that are transformed into particles through physical and chemical processes in the atmosphere.

The size of PM is directly linked to the potential for causing health problems. EPA is concerned about particles that are 10 micrometers in diameter or smaller because those are the particles that generally pass through the throat and nose and enter the lungs. Once inhaled, these particles can affect the heart and lungs and cause serious health effects such as aggravation of respiratory and cardiovascular disease, lung disease, decreased lung function, asthma attacks, and certain cardiovascular problems such as heart attacks and irregular heartbeat. Individuals particularly sensitive to fine particle exposure include older adults, people with heart and lung disease, and children. EPA groups PM into two categories, coarse PM or PM<sub>10</sub>, and fine PM or PM<sub>2.5</sub>, as described below.

Inhalable coarse particles (PM<sub>10</sub>), such as those found near roadways and dusty industries, are larger than 2.5 micrometers and smaller than 10 micrometers in diameter. Sources of coarse particles include crushing or grinding operations and dust from paved or unpaved roads. Control of PM<sub>10</sub> is primarily achieved through the control of dust at construction and industrial sites, the cleaning of paved roads, and the wetting or paving of frequently used unpaved roads.

PM<sub>10</sub> includes the subgroup of finer particles (PM<sub>2.5</sub>), such as those found in smoke and haze, with an aerodynamic diameter of 2.5 microns or smaller. These finer particles pose an increased health risk because they can deposit deep in the lungs and contain substances that are particularly harmful to human health. Sources of fine particles include all types of combustion activities such as motor vehicles, power plants, wood burning, and certain industrial processes. PM<sub>2.5</sub> is the major cause of reduced visibility (haze) in California.

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<sup>1</sup> Reactive organic gases (ROG) are also identified as volatile organic compounds (VOC). In this EIR, the term ROG is used.

### *Carbon Monoxide (CO)*

CO is a colorless and odorless gas that, in the urban environment, is associated primarily with the incomplete combustion of fossil fuels in motor vehicles. Relatively high concentrations are typically found near crowded intersections and along heavily used roadways carrying slow-moving traffic. Even under the most severe meteorological and traffic conditions, high concentrations of CO are limited to locations within a relatively short distance (300 to 600 feet) of heavily traveled roadways. Overall, CO emissions are decreasing because of the Federal Motor Vehicle Control Program, which has mandated increasingly lower emission levels for vehicles manufactured since 1973. CO concentrations are typically higher in the winter; therefore, California has required the use of oxygenated gasoline in the winter months to reduce CO emissions.

In addition to regional CO emissions, localized CO emissions can be of concern. Vehicle traffic emissions can cause localized CO impacts and severe vehicle congestion at major signalized intersections can generate elevated CO levels, called “hotspots,” that can be hazardous to human receptors adjacent to the intersections. Severe vehicle congestion is determined by level of service (LOS) analysis for roadways and intersections. According to the Transportation Project-level Carbon Monoxide Protocol (CO Protocol) (UCD ITS 1996), localized CO impacts are typically of concern at signalized intersections that are frequently congested and operate at unacceptable LOS.

### *Nitrogen Dioxide (NO<sub>2</sub>)*

NO<sub>2</sub> is a gas that is a product of the combustion of fossil fuels generated from vehicles and stationary sources, such as power plants and boilers. NO<sub>2</sub> can cause lung damage. As noted above, NO<sub>2</sub> is a type of NO<sub>x</sub> and is a principal contributor to ozone and smog production.

### *Sulfur Dioxide (SO<sub>2</sub>)*

SO<sub>2</sub> is a gas that is a product of the combustion of fossil fuels, with the primary source being power plants and heavy industry that utilize coal or oil as fuel. SO<sub>2</sub> is also a product of diesel engine emissions. The human health effects of SO<sub>2</sub> include lung disease and breathing problems for asthmatics. SO<sub>2</sub> in the atmosphere contributes to the formation of acid rain. In the Basin, there is relatively little combustion of coal and oil; therefore, SO<sub>2</sub> is less of a concern than in other parts of the country.

### *Lead (Pb)*

Lead is a highly toxic metal that may cause a range of human health effects. Lead anti-knock additives in gasoline represent a major source of Lead emissions to the atmosphere. However, Lead emissions have significantly decreased due to the near elimination of leaded gasoline use. Lead-based paint, banned or limited by EPA in the 1980s, is a health hazard when it deteriorates by peeling, chipping, or cracking; or generates lead dust when scraped, sanded, or heated.

## *Odor*

Odor is considered an air quality issue, either at the local level (e.g., odor from wastewater treatment) or at the regional level (e.g., smoke from wildfires). An air pollutant means any fume, smoke, PM, vapor, gas, odorous substance, or any combination thereof. Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache).

## **Attainment Status In The Basin**

Specific geographic areas are classified as either "attainment" or "nonattainment" areas for each pollutant based on the comparison of measured data with federal and state standards. The Basin currently meets NAAQS for all criteria air pollutants except ozone, and meets the CAAQS for all criteria air pollutants except ozone, PM<sub>10</sub>, and PM<sub>2.5</sub>. For the 8-hour ozone standard, the Basin was previously classified as "basic" nonattainment, which is the designation EPA assigns to regions that were in attainment of the previous 1-hour standard, but would become nonattainment when subject to the new 8-hour standard. However, EPA was challenged on its justification for "basic" designations and in January 2009 published proposed reclassifications for all "basic" nonattainment areas. This resulted in the Basin being considered "moderate" nonattainment.

Adoption of the new designations would require the San Diego Air Pollution Control District (SDAPCD) to reevaluate its Ozone Attainment Plan to ensure compliance with the attainment requirements for "moderate" nonattainment areas (Reider 2009). However, EPA, in response to a court decision, is expected to rule in 2011 that the Basin's basic nonattainment status for the 8-hour ozone standard be reclassified as a "serious" nonattainment area and with a mandatory attainment date of June 15, 2013. Final EPA action on this proposed reclassification has yet to be taken.

The Basin currently falls under a federal maintenance plan for CO, following a 1998 redesignation as a CO attainment area. The Basin is currently classified as a state "serious" ozone nonattainment area and a state nonattainment area for PM<sub>10</sub> and PM<sub>2.5</sub>.

## **Existing Air Quality in The Basin**

Ambient air pollutant concentrations in the Basin are measured at 10 air quality monitoring stations operated by SDAPCD. The air quality monitoring station closest to the project study areas is the Escondido monitoring station, located on East Valley Parkway. Table 3.3-2 presents the most recent available data from the Escondido monitoring station as summaries of the exceedances of standards and the highest pollutant levels recorded for years 2008 through 2010.

**Table 3.3-2  
Ambient Air Quality Summary – Escondido Monitoring Station**

Pollutant Standards	2008	2009	2010
<b>Carbon Monoxide (CO)</b>			
National maximum 8-hour concentration (ppm)	2.81	3.24	2.46
State maximum 8-hour concentration (ppm)	2.81	3.54	2.46
State maximum 1-hour concentration (ppm)	5.7	5.2	4.6
<u>Number of Days Standard Exceeded</u>			
NAAQS 8-hour (>9.0 ppm)	0	0	0
CAAQS 8-hour (>9.0 ppm)	0	0	0
CAAQS 1-hour (>20.0 ppm)	0	0	0
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>			
State maximum 1-hour concentration (ppm)	0.081	0.073	0.064
Annual Average (ppm)	0.018	0.016	0.014
<u>Number of Days Standard Exceeded</u>			
CAAQS 1-hour	0	0	0
<b>Ozone</b>			
State max 1-hour concentration (ppm)	0.116	0.093	0.105
National maximum 8-hour concentration (ppm)	0.098	0.080	0.084
<u>Number of Days Standard Exceeded</u>			
CAAQS 1-hour (>0.09 ppm)	9	0	2
CAAQS 8-hour (>0.070 ppm)/ NAAQS 8-hour (>0.075 ppm)	23/13	9/1	5/3
<b>Particulate Matter (PM<sub>10</sub>)<sup>a</sup></b>			
National maximum 24-hour concentration (µg/m <sup>3</sup> )	82.0	73.0	42.0
State maximum 24-hour concentration (µg/m <sup>3</sup> )	84.0	74.0	43.0
State annual average concentration (µg/m <sup>3</sup> )	*	24.6	21.0
<u>Estimated Number of Days Standard Exceeded</u>			
NAAQS 24-hour (>150 µg/m <sup>3</sup> )	0	0	0
CAAQS 24-hour (>50 µg/m <sup>3</sup> )	1	1	0
<b>Particulate Matter (PM<sub>2.5</sub>)<sup>a</sup></b>			
National maximum 24-hour concentration (µg/m <sup>3</sup> )	44.0	78.3	48.4
State maximum 24-hour concentration (µg/m <sup>3</sup> )	44.0	78.4	52.2
National annual average concentration (µg/m <sup>3</sup> )	*	13.4	12.2
State annual average concentration (µg/m <sup>3</sup> )	12.4	*	*
<u>Estimated Number of Days Standard Exceeded</u>			
NAAQS 24-hour (>65 µg/m <sup>3</sup> )	3	2	2

Notes:

\* Data unavailable

<sup>a</sup> State and national statistics may differ for the following reasons: State statistics are based on California-approved samplers, whereas national statistics are based on samplers using federal reference or equivalent methods. State and national statistics may therefore be based on different samplers. State statistics are based on *local* conditions; national statistics are based on *standard* conditions. State criteria for ensuring that data are sufficiently complete for calculating valid annual averages are more stringent than the national criteria.

ppm = parts per million; µg/m<sup>3</sup> = micrograms per cubic meter

Source: ARB 2011

As shown in Table 3.3-2, ambient air concentrations of CO and NO<sub>2</sub> at the Escondido monitoring station have not exceeded the NAAQS/CAAQS in the past 3 years. The PM<sub>10</sub> concentrations have not exceeded the federal standards for the past 3 years, but did exceed the state standards in 2008 and 2009. The PM<sub>2.5</sub> concentrations have exceeded the federal standards in each of the past 3 years. Concentrations of 8-hour ozone registered at the monitoring station have exceeded the CAAQS and NAAQS every year in the past 3 years.

### **Sensitive Receptors**

Some members of the population are especially sensitive to air pollutant emissions and should be given special consideration when evaluating air quality impacts from projects. These include children, the elderly, people with preexisting respiratory or cardiovascular illness, and athletes and others who engage in frequent exercise.

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent as the majority of the workers tend to stay indoors most of the time.

## **3.3.2 REGULATORY SETTING**

### **Federal Regulations**

At the federal level, EPA is charged with implementing national air quality programs. EPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments made by Congress occurred in 1990.

The CAA required EPA to establish primary and secondary NAAQS. The CAA also required each state to prepare an air quality control plan referred to as a State Implementation Plan (SIP). The federal Clean Air Act Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. EPA is responsible for reviewing all state SIPs to determine conformance to the mandates of the CAAA and to determine whether implementation will achieve air quality goals. If EPA determines an SIP is inadequate, a Federal Implementation Plan (FIP) that imposes additional control measures may be prepared for the nonattainment area.

### **State Regulations**

ARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act (CCAA). The CCAA was

adopted in 1988 and required ARB to establish the CAAQS. ARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and criteria air pollutants. In most cases, the CAAQS are more stringent than the NAAQS and incorporate a margin of safety to protect sensitive individuals.

ARB and local air pollution control districts are currently developing plans for meeting new national air quality standards for ozone and PM<sub>2.5</sub>. California's adopted 2007 State Strategy was submitted to EPA as a revision to the SIP in November 2007 (ARB 2008).

### **Local Plans and Policies**

In San Diego County, the SDAPCD is the agency responsible for protecting the public health and welfare through the administration of federal and state air quality laws and policies. SDAPCD is responsible for monitoring air pollution, preparing the San Diego County portion of the SIP, and publicizing rules and regulations. The SIP includes strategies and tactics to be used to attain and maintain acceptable air quality in the County; this list of strategies is called the Regional Air Quality Strategy (RAQS). The rules and regulations include procedures and requirements to control the emission of pollutants and prevent significant adverse impacts.

Included in the APCD's tasks are monitoring of air pollution, preparation of the SIP for the San Diego Air Basin (SDAB) and promulgation of Rules and Regulations. In response to the federal nonattainment designation for the 8-hour O<sub>3</sub> standard, APCD prepared and ARB approved and submitted the *Eight-Hour Ozone Attainment Plan for San Diego County* (May 2007) to the EPA. The Plan identifies control measures and associated emission reductions necessary to demonstrate attainment of the 8-hour O<sub>3</sub> NAAQS. The SIP provides plans for attaining and maintaining the 8-hour NAAQS for O<sub>3</sub> and demonstrates how the SDAB would continue to maintain compliance with federal CO standards. The SDAB achieved the NAAQS for CO in 1993 and the EPA approved a 10-year maintenance plan in 1998. The current version of the maintenance plan is the *2004 Revision to the California State Implementation Plan for Carbon Monoxide Updated Maintenance Plan for Ten Federal Planning Areas*.

The SDAPCD does not have quantitative emissions limits for construction activities, nor for long-term emissions that may result from increased vehicle use. The Rules and Regulations include procedures and requirements to control the emission of pollutants and to prevent adverse impacts.

### **Toxic Air Contaminants**

In addition to criteria pollutants, air quality regulations also focus on localized hazardous air pollutants, which are also called toxic air contaminants (TACs). For those TACs that may cause cancer there is, in general, no minimum concentration that does not present some risk. This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and ambient standards have been established (i.e., NAAQS).

EPA and ARB have ongoing programs to identify and regulate TACs. Among the many substances identified as TACs are diesel exhaust particulates, asbestos, and lead. The regulation of TACs is generally through statutes and rules that require the use of the maximum or best available control technology (MACT or BACT) to limit TAC emissions.

Particulate exhaust emissions from diesel-fueled engines (diesel PM) were identified as a TAC by ARB in 1998. The control of diesel PM emissions is a very active current concern of regulatory agencies at all levels. The majority of the estimated local health risk from TACs is from diesel PM. The composition of diesel PM emissions from diesel-fueled engines varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present. Federal and state efforts to reduce diesel PM emissions have focused on the use of improved fuels, adding particulate filters to engines, and requiring the production of new-technology engines that emit fewer exhaust particulates.

MACT/BACT for asbestos and Lead TACs have been identified for many years and there are established rules and procedures to prevent dispersion and inhalation of these substances. Asbestos is a naturally occurring mineral that was used in building materials for thermal and acoustical insulation and fire resistance until the mid-1980s and a partial ban by EPA was imposed in 1989. Lead was used in paint for housing until 1978 when lead-based paint was banned by EPA for use in housing. Asbestos and lead, when disturbed during building demolition, can become airborne as inhalable health hazard pollutants and, therefore, require abatement before demolition.

### **3.3.3 THRESHOLDS FOR DETERMINING SIGNIFICANCE**

As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management board or air pollution control district may be relied on to make the impact determinations for specific program elements. In San Diego County, a project would be considered to have a significant adverse effect on air quality if any of the following would occur as a result of a project-related component:

- Conflict with or obstruct the implementation of the RAQS and/or applicable portions of the SIP;
- Result in emissions that would violate any federal or state ambient air quality standards or contribute substantially to an existing or projected air quality violation;
- Expose sensitive receptors to substantial pollutant concentrations; or,
- Create objectionable odors affecting a substantial number of people.

In relation to the second and third standards, while USEPA and ARB have set ambient air quality standards, neither SDAPCD nor the City of San Marcos have developed significance thresholds. However, San Diego County has developed CEQA screening level thresholds of significance for regional pollutant emissions. A project with emissions rates below these thresholds is considered to have a less-than-significant impact on regional and local air quality throughout the SDAB. The County indicates that any project that results in an emissions increase less than the thresholds in Table 3.3-3 would not:

- Cause a violation of a state or national ambient air quality standard anywhere that does not already exceed such standard,
- Cause additional violations of a national ambient air quality standard anywhere the standard is already being exceeded,
- Cause additional violations of a state ambient air quality standard anywhere the standard is already being exceeded, or
- Prevent or interfere with the attainment or maintenance of any State or national ambient air quality standard.

Therefore, if the emissions of the proposed project are found to be below the screening level thresholds, it can be concluded that it would not lead to a violation of a NAAQS/CAAQS.

**Table 3.3-3  
Regional Pollutant Emission Screening Level Thresholds of Significance**

	ROG	NO <sub>x</sub>	CO	SO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>	Pb
Pounds per hour	–	25	100	25	–	–	–
Pounds per day	75	250	550	250	100	55	3.2
Tons per year	13.7	40	100	40	15	10	0.6

ROG = reactive organic gases; NO<sub>x</sub> = oxides of nitrogen; SO<sub>x</sub> = sulfur oxides

– = No threshold proposed

Source: County of San Diego 2007

### 3.3.4 ANALYSIS OF ENVIRONMENTAL IMPACTS

#### Conflict with or obstruct implementation of the applicable air quality plan

Air quality planning efforts are based on analysis and forecasts of air pollutant emissions throughout the entire region. Consistency with air quality planning efforts is based on the consistency of the proposed General Plan with the regional air quality plan. Emission forecasts rely on projections of vehicle miles traveled (VMT) by the Metropolitan Planning Organizations, such as SANDAG, and population, employment, and land use projections made by local jurisdictions, such as the City of San Marcos General Plan.

Policies in the proposed General Plan include a variety of actions aimed at cooperating with SANDAG and regional planning efforts. The SANDAG 2050 Regional Transportation Plan (RTP) is a comprehensive approach to addressing the region's mobility challenges. The SANDAG Board of Directors approved the plan and the EIR in October 2011. The proposed General Plan includes relevant goals and policies that reflect and respond to the SANDAG RTP regional goals. The Land Use and Community Design Element supported by the Conservation and Open Space Element, in particular, contain policies specifically written to address impacts related to air quality, GHG emissions, and regional cooperation.

Future development in the City of San Marcos would generate VMT and associated emissions of ozone precursors and PM. Future development would also be required to demonstrate compliance with the strategies and measures adopted as part of the RAQS and SIP during the environmental review process, as well as with the requirements of SDAPCD to reduce emissions of particulate matter. The City of San Marcos will continue to coordinate with SANDAG and SDAPCD to ensure that all new local land use decisions are incorporated into regional planning and air quality plan updates. Based on the requirements for consistency with emission control strategies in the RAQS and SIP, the proposed General Plan would not conflict with or obstruct the implementation of the RAQS and/or applicable portions of the SIP. The proposed General Plan is consistent with SDAPCD current air quality planning efforts. Therefore, this impact would be **less than significant**.

### **Violate any air quality standard or contribute substantially to an existing or projected air quality violation**

The air pollutants of greatest concern in San Diego County are ozone, PM<sub>10</sub>, and PM<sub>2.5</sub> because of the current nonattainment status for these pollutants. Sources of these pollutants include stationary sources (e.g., fuel combustion, waste disposal processes, and industrial processes), area-wide sources (e.g., use of consumer products), and mobile sources (e.g., on-road vehicles). Stationary source emissions are reported to SDAPCD and are not anticipated to change unless new stationary sources are constructed. However, if new stationary sources were constructed, they would be subject to SDAPCD's requirements for permitting and must demonstrate that they will not cause or contribute to a violation of an air quality standard. Therefore, future emissions from stationary sources developed under the proposed General Plan Update were not calculated because these sources would be required to demonstrate that they would not contribute to or violate any air quality standards in order to obtain required permits from SDAPCD.

Future facility development of stationary sources would be required to conduct environmental review pursuant to CEQA prior to approval. Area-source and mobile emissions estimates were based on development associated with the proposed General Plan are based on the forecasted build-out of the proposed General Plan land use designations.

#### *Construction*

The proposed General Plan would allow for additional commercial, residential, and industrial development within the City. The increase in density and development potential would also result in additional construction-related air quality emissions. At the time of this writing, the development schedule for these additional uses is unknown and determined by factors outside the City's control, such as market demand and capital availability. It is anticipated that these additional construction emissions would occur over an extended period of time, depending on factors such as the overall economic environment. Therefore, construction emissions resulting from additional development would not likely occur within the same year. Nevertheless, construction projects have the potential to generate criteria air pollutants and precursors that could cause a **significant** impact; mitigation is required.

During construction, criteria air pollutant and precursor emissions would be temporarily and intermittently generated from a variety of sources. Potential demolition, excavation, and site grading activities would generate fugitive PM dust emissions. Fugitive PM dust emissions are primarily associated with ground disturbance and material transport and vary as a function of parameters such as soil silt content and moisture, wind speed, acreage of disturbance area, and the intensity of activity performed with construction equipment. Exhaust emissions from diesel equipment, material transport trips, and construction worker-commute trips also contribute to short-term increases in PM emissions, but to a lesser extent. Exhaust emissions from these construction-related mobile sources would also include ROG and NOX. In addition, the application of architectural coatings (i.e., interior and exterior surface painting) would result in off-gas emissions of ROG, PM10, and PM2.5.

The timing and intensity of construction activities cannot, at this time, be accurately quantified nor compared with a significance threshold. However, it is anticipated that all construction projects, regardless of size or intensity, would be required to implement certain Best Management Practices (BMP) to avoid significant construction emissions.

### *Operational*

The proposed General Plan would allow an increased intensity of development in the City. The additional development would include land uses such as residential, retail, offices, industrial, business park, and general commercial services. Daily activities associated with the operation of these land uses would generate criteria air pollutant and precursor emissions from mobile and area sources. Mobile sources include vehicle trips coming to and leaving from the planned land uses. Area sources include sources such as consumer products (i.e., ROG), natural gas combustion for water and space heating, landscape maintenance equipment, hearth operation in residential homes, and periodic architectural coatings. While construction emissions are considered short term and temporary, operational emissions are considered long term and occur for the lifetime of the project given a project's resulting land uses. Therefore, operational emissions have a greater potential to affect the attainment status and implementation of an air quality plan within an air basin, particularly as a result of increased traffic from additional development. This impact would be **significant**; mitigation is required.

The operational emissions associated with the day-to-day activities of the proposed additional land uses were quantified using the California Emission Estimator Model (CalEEMod) Version 2011.1. CalEEMod allows the user to enter project-specific information such as types of land uses, amount of land uses, and vehicle trip generation rates. The model contains region-specific parameters for variables such as on-road vehicle distribution and hearth operations among others. Table 3.3-4 presents the proposed project's total emissions along with the assumed largest project occurring from the rezone. This modeling assumes the expected development capacity of the General Plan (i.e., new residences, commercial and industrial uses) assumed in Table 2.0-3 in Chapter 2.0, "Project Description". As shown in Table 3.3-4, annual operational emissions resulting from the worst-case individual project would exceed the surrogate thresholds of significance for ROG, NOX, CO, PM10, and PM2.5.

**Table 3.3-4  
Summary of Modeled Operational Emissions of  
Criteria Air Pollutants and Precursors**

	Emissions (lbs/day) <sup>1</sup>				
	ROG	NO <sub>x</sub>	CO	PM <sub>10</sub>	PM <sub>2.5</sub>
Area Sources	2,973.16	34.09	3,222.94	344.44	344.44
Energy	9.78	85.56	50.29	6.75	6.75
Mobile Sources	2,584.89	4,540.49	19,682.45	6,672.70	369.96
<b>Total</b>	<b>5,567.83</b>	<b>4,660.14</b>	<b>22,955.68</b>	<b>7,023.89</b>	<b>721.15</b>
<b>San Diego County Significance Threshold<sup>2</sup></b>	<b>75</b>	<b>250</b>	<b>550</b>	<b>100</b>	<b>55</b>
<b>Exceeds Threshold?</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>	<b>Yes</b>

Note: The total emissions estimates shown are the highest values that would occur in the summer or winter season. Totals may not add up to individual values since the highest emissions for a pollutant from both area and mobile sources may not occur in the same season.

Legend: lbs/day = pounds per day; CO = carbon monoxide; NO<sub>x</sub> = oxides of nitrogen; PM<sub>10</sub> = particulate matter less than or equal to 10 microns in diameter; PM<sub>2.5</sub> = particulate matter less than or equal to 2.5 microns in diameter; ROG = reactive organic gases.

<sup>1</sup> Emissions modeled using the CalEEMod (Version 2011.1.1) computer model, based on trip generation rates obtained from the analysis prepared for this project and proposed land uses identified in Chapter 2.0, "Project Description," and Section 3.16, "Traffic and Transportation," of this EIR.

<sup>2</sup> Neither SDAPCD nor the City of San Marcos have developed significance thresholds. However, San Diego County has developed recommended screening level thresholds of significance for regional pollutant emissions. A project with emissions rates below these thresholds is considered to have a less-than-significant impact on regional and local air quality throughout the SDAB.

Source: AECOM 2011 Refer to Appendix B for detailed assumptions and modeling output files.

The Conservation and Open Space Element of the proposed General Plan includes a number of goals and policies that address air quality and would reduce criteria pollutant emissions. These include polices include continuing collaboration with agencies to meet state and federal ambient air quality standards, requiring new development be designed with consideration of site and building orientation and other strategies to lessen potential health risks, encouraging energy conservation and the use of alternative energy sources, promoting efficient use of energy and conservation of available resources in public and private construction and infrastructure, incorporating energy and resource conservation standards into City facilities, supporting the generation, transmission and use of renewable energy, policies designed to meet the state's Net Zero Energy goals by the year 2020.

### Cause CO Hotspots

CO concentration is a direct function of motor vehicle activity, particularly during peak commute hours, and meteorological conditions. Under specific meteorological conditions, CO concentrations may reach unhealthy levels with respect to local sensitive land uses, such as residential areas, schools, preschools, playgrounds, and hospitals. As a result, air districts typically recommend analysis of CO emissions at a local rather than a regional level. Because increased CO concentrations are usually associated with roadways that are congested and with heavy traffic volume, many air districts have established preliminary screening criteria to determine with fair certainty that, if not violated, project-generated, long-

term operational local mobile-source emissions of CO would not result in, or substantially contribute to, emissions concentrations that exceed the 1-hour ambient air quality standard of 20 ppm or the 8-hour standard of 9.0 ppm, respectively.

SDAPCD has not established screening criteria for CO hotspots, but the County of San Diego Department of Planning and Land Use (DPLU) indicates that projects that cause road intersections or roadway segments to operate at or below a LOS E and create a CO “hotspot” create a cumulatively considerable net increase of CO.

Guidelines for the Bay Area Air Quality Management District (BAAQMD) and Sacramento Metropolitan Air Quality Management District (SMAQMD) will be discussed below to illustrate guidelines in that have been implemented in other California Air Quality Management Districts. The BAAQMD’s CEQA Guidelines suggest that projects that would not violate any of the following preliminary screening criteria would not be anticipated to result in or substantially contribute to an exceedance of CO CAAQS:

- The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plan, and local congestion management agency plans.
- The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing of air is substantially limited.

Furthermore, the SMAQMD has developed screening criteria where a project would not result in significant localized CO impacts if the following would occur:

- The project would not result in an affected intersection experiencing more than 31,600 vehicles per hour.
- The project would not contribute traffic to a tunnel, parking garage, bridge, underpass, urban street canyon, or below-grade roadway; or other locations where horizontal or vertical mixing of air would be substantially limited.
- The mix of vehicles at the intersection is not anticipated to be substantially different from the County average.

As determined in the traffic study, several intersections in the project region would operate at LOS E or below. The LOS of an intersection indicates the flow of traffic through an intersection. LOS A would represent a free-flowing intersection, while LOS F would represent a congested intersection where vehicles are idling for extended periods. Intersections with LOS E or below are considered to have the potential to generate a CO hotspot.

However, the proposed General Plan would not generate conditions where large volumes of vehicles are traveling in an enhanced area for CO hotspots such as a tunnel, bridge, or urban street canyon. The traffic analysis prepared for the project determined that total daily traffic volumes would result in a maximum of 47,940 trips on San Marcos Boulevard. Given the maximum daily volume anticipated in 2030, the hourly volumes would not approach any of the screening thresholds discussed above.

Therefore, it is not anticipated that implementation of the proposed amendments and subsequent projects would cause a CO hotspot. The proposed project would not expose sensitive receptors to substantial pollutant concentrations from on-site emissions of criteria pollutants, or off-site emissions of CO during construction activities. Specifically, the CO concentrations resulting from the proposed project would not violate the CAAQS for either the one-hour period (20 ppm) or the eight-hour period (9.0 ppm). Therefore, this impact is considered **less than significant**.

## Impact Sensitive Receptors

### *Construction*

During construction of the additional land uses, heavy-duty construction equipment, on-site generators, and construction worker vehicles could generate diesel particulate matter (diesel PM), which has been identified as a Toxic Air Contaminant (TAC) by ARB. Generation of diesel PM from construction projects typically occurs in a single area for a short period. The variable nature of construction activity also affects the amount of time that equipment is typically within a distance that would expose sensitive receptors to substantial concentrations. Concentrations of mobile-source diesel PM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (ARB 2005).

The dose (of TAC) to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance; a longer exposure period to a fixed amount of emissions would result in higher health risks for the Maximally Exposed Individual (MEI). According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments (HRAs) used to determine the exposure of sensitive receptors to TAC emissions should be based on a 70-year exposure period; however, such assessments should also be limited to the period/duration of activities associated with the proposed project. Building construction activities for individual projects in the General Plan are anticipated to last approximately 6 months to a year. Thus, if the duration of potentially harmful construction activities near a sensitive receptor was 1 year, the exposure would be approximately 1% of the total exposure period used for typical health risk calculations.

The OEHHA Guidance Manual for Preparation of Health Risk Assessments (HRA Guidance) (OEHHA 2003) allows a 9-year exposure period to represent the first 9 years of a child's life, which physiologically and behaviorally result in higher exposure levels. However, the HRA Guidance does not support an HRA for exposures of less than 9 years. For cases where exposure would last less than 9 years, OEHHA suggests assuming a minimum exposure of 9 years. Therefore, the exposure period for the most conservative analysis would be approximately 10% of the required exposure period. Considering this

information, the highly dispersive nature of diesel PM, and the fact that construction activities would occur intermittently and at various locations over approximately 18 years (i.e., 2012 to 2030), it is not anticipated that the proposed project would expose sensitive receptors to substantial TAC concentrations. This impact is considered **less than significant**.

### *Operations*

The proposed land uses would primarily, though not exclusively, be residential and commercial in nature. All TAC emissions associated with potential residential and commercial land uses would be minimal and would be disposed of properly according to the City Municipal Code. The proposed General Plan anticipates construction of commercial land uses, which may potentially include stationary sources of TACs, such as dry-cleaning establishments and diesel-fueled back-up generators.

These types of stationary sources, in addition to any other stationary sources, including industrial land uses, that may emit TACs, would be subject to the SDAPCD's rules and regulations, including Regulation XII. The City does not anticipate that any substantial sources of toxic air pollutants would be developed under the proposed General Plan. The proposed General Plan includes policies to reduce TAC emission impacts, including continued work with agencies to meet state and federal ambient air quality standards, and requiring new development with sensitive uses located near mobile and stationary toxic air contaminants be designed with consideration of site and building orientation, location of trees, and incorporation of appropriate technology for improved air quality (i.e., ventilation and filtration) to lessen any potential health risks.

Mitigation Measure AQ-6 is proposed to address this impact. Mitigation Measure AQ-6 requires that health risk assessment be prepared during review of proposed development, where environmental review under CEQA indicates the need to identify health issues, reduce exposure to sensitive receptors, and/or to implement alternative approaches to development that reduce exposure to toxic air contaminant sources. Implementation of Mitigation Measure AQ-6 would reduce the impacts to less than significant.

Buildout of the proposed General Plan is not expected to include significant sources of TAC emissions or expose sensitive receptors to adverse health impacts associated with TAC emissions. Individual projects constructed as part of the proposed General Plan would be consistent with General Plan goals and policies; in combination with the implementation of Mitigation Measure AQ-6 the impacts of TAC emissions would be reduced. Therefore, the impact is considered **less than significant**.

### **Odors**

As discussed previously, the human response to odors is extremely subjective, and sensitivity to odors varies greatly among the public.

According to air quality guidelines developed by DPLU a project will not have a significant impact if the following are true:

- The project does not place a new odor producing land use activity adjacent to existing sensitive receptors (ex. Waste Water Treatment facility);
- The project will not place sensitive receptors adjacent to or near a confined animal facility or other odor producing land use; and
- The project is not located near any other agricultural use with the potential to produce strong odors including but not limited to organic agricultural operations or agricultural operations that apply a substantial amount of agricultural chemicals that typically produce strong odors.

Potential sources that may emit odors during construction activities include equipment exhaust. Odors from these sources would be localized and generally confined to the immediate area surrounding the proposed project site. The projects constructed as part of the proposed General Plan would utilize typical construction techniques, and the odors would be typical of most construction sites and temporary in nature.

Minor sources of odors, such as exhaust from mobile sources and char broilers associated with commercial uses, are not typically associated with numerous odor complaints but are known to have temporary, less concentrated odors. Development of land uses could include odor-generating facilities, such as industrial facilities. All new development projects will be required to meet existing regulations, including permitting requirements and disclosure laws. As part of the proposed General Plan, new land use designations would result in some agricultural areas being converted to nonagricultural uses. Therefore, sensitive receptors could be placed adjacent to odor-producing land uses. Mitigation Measure 3.2-1 of the Draft EIR would ensure that new development proposed adjacent to cultivated agricultural lands would provide buffers to reduce potential conflicts associated with adverse impacts, including odors. Therefore, the proposed project would not create objectionable odors affecting a substantial number of people and impacts would be less than significant. With adherence to existing regulations and plans, impacts associated with odors would be reduced to a level **less than significant**.

### **3.3.5 MITIGATION MEASURES**

Implementation of the San Marcos General Plan would result in significant impacts related to air quality. The following mitigation measures are general and programmatic in nature, and would be refined in project-specific CEQA documents. Individual development projects will be required to undergo project-specific environmental review and mitigation measures will be identified to reduce any project-specific significant impacts.

#### **Conflict with or Obstruct Implementation of the Applicable Air Quality Plan**

Impacts are **less than significant**, no mitigation measures are required.

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## Violate Any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation

### *Construction*

AQ-1 Reduce Construction-Related Emissions. The City and project contractors shall implement the following measures during all construction activities involving demolition or exterior construction. Furthermore, a fugitive dust control plan shall be developed and approved by SDAPCD for all projects prior to issuance of a grading permit and commencement of construction activities. The dust control plan shall specifically identify measures that would minimize generation of fugitive dust from all construction activities. In addition, the following standard measures shall be implemented:

- Comply with and implement all applicable SDAPCD rules and regulations that pertain to construction activities (e.g., asphalt paving ROG requirements, administrative requirements, fugitive dust management practices). Implement all construction-related requirements recommended by the air district or local government.
- Conduct water as necessary to prevent visible dust emissions.
- Apply water, nontoxic chemical stabilizers, or dust suppressants, or use tarps or other suitable material in all disturbed areas that will not be utilized for 10 days or more.
- Prevent carryout and track out of fugitive dust on construction vehicles. Methods to limit carryout and track include, but are not limited to, using wheel washers and/or metal tracks at the site egress(es), sweeping any track out on adjacent public streets at the end of each workday, and lining access points with gravel, mulch, or wood chips.
- Cover or wet the filled cargo compartment of all transport trucks to limit visible dust emissions during transport, and maintain at least 2 feet of freeboard space from the top of a container.
- Install sandbags or other erosion control measures on sites with a slope greater than 1% to prevent silt runoff to public roadways.
- Maintain all construction equipment according to the manufacturers' specifications. The equipment must be checked by a certified mechanic and determined to be running in proper condition before it is operated.
- Minimize idling time either by shutting off equipment when it is not in use or reducing the time of idling to no more than 5 minutes. Provide clear signage regarding idling at site access points.
- Use alternative fueled (e.g., compressed natural gas [CNG], liquefied natural gas [LNG], propane), or electric-powered construction equipment where feasible.

- Use equipment with diesel oxidation catalysts, catalyzed diesel PM filters, or other applicable air district-approved emission reduction retrofit devices where feasible.

### *Operational*

- AQ-2 Review future development proposals for potential regional and local air quality impacts per CEQA. If potential impacts are identified, mitigation will be required to reduce the impact to a level less than significant, where feasible. (Implementation Program COS-4.1)
- AQ-3 Periodically upgrade the Green Building Ordinance and requirements as mainline construction practices develop, and new materials and building products become available, with the goal of meeting the state's Net Zero Energy goals by the year 2020 (Implementation Program COS-4.5), and continue to update the Green Building Ordinance and Building Code as required by the state.
- AQ-4 Partner with private industry (e.g., solar technology providers) to incorporated renewable energy features in commercial, business park, and industrial developments. (Implementation Program COS-4.8)
- AQ-5 Implement the Regional Air Quality Strategy. The City shall work with SDAPCD and SANDAG to implement the RAQS and meet all federal and state air quality standards for pollutants. The City shall participate in any future amendments and updates to the RAQS. The City shall also implement, review, and interpret the proposed General Plan and future discretionary projects in a manner consistent with the RAQS to meet standards and reduce overall emissions from mobile and stationary sources.

### **Impact Sensitive Receptors**

#### *Construction*

Impacts are **less than significant**, no mitigation measures are required.

#### *Operations*

Impacts are **less than significant**, no mitigation measures are required.

#### **Odors**

Impacts are **less than significant**, no mitigation measures are required.

### **3.3.6 SIGNIFICANCE AFTER MITIGATION**

#### **Conflict with or Obstruct Implementation of the Applicable Air Quality Plan**

Impacts from proposed General Plan activities are **less than significant**; no mitigation is necessary.

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## Violate Any Air Quality Standard or Contribute Substantially to an Existing or Projected Air Quality Violation

### *Construction*

Mitigation Measure AQ-1 is proposed to reduce this impact. Mitigation Measure AQ-1 would ensure that all construction activities associated with the proposed amendments would minimize their fugitive dust and exhaust emissions.

As discussed above, it is not anticipated that construction activities would occur for an extended period or be particularly intensive. Therefore, compliance with all requirements of Mitigation Measure AQ-1 would reduce potential impacts associated with project construction emissions, but not necessarily to a less than significant level. This impact would remain **significant and unavoidable**.

### *Operational*

Mitigation Measures AQ-2, AQ-3, AQ-4, and AQ-5 are proposed to reduce operational impacts. Mitigation Measure AQ-2 requires review of future development for impacts and project-level mitigations to reduce impacts. Mitigation Measure AQ-3 state the City will periodically upgrade the Green Building Ordinance and requirements as new practices become available. Mitigation Measure AQ-4 enables public/private partnerships to incorporate renewable energy features in non-residential developments. Mitigation Measure AQ-5 states the City will implement the Regional Air Quality Strategy.

Adherence to SDAPCD rules and regulations, proposed General Plan policies, and implementation of Mitigation Measures AQ-2, AQ-3, AQ-4 and AQ-5 would reduce the impact associated with operational emissions, but not to a less-than-significant level. Despite these mitigation efforts, implementation of the proposed General Plan could result in emissions in excess of thresholds for criteria air pollutants and precursors for which the region is in nonattainment. No additional feasible mitigation is available. The impact would remain **significant and unavoidable**.

## Impact Sensitive Receptors

Impacts on sensitive receptors resulting from construction and operational activities in the proposed General Plan are expected to have a **less than significant** impact; no mitigation is required.

## Odors

Impacts from odors as a result of the proposed General Plan are expected to be **less than significant**; no mitigation is required.

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