

## 9.0 AIR QUALITY

This chapter includes a description of existing air quality, a summary of applicable regulations, and analyses of potential short-term and long-term impacts of the proposed project on air quality. The methods of analysis for short-term construction, long-term regional (operational), local mobile source, odor, and toxic air contaminant (TAC) emissions are consistent with the recommendations of the Placer County Air Pollution Control District (PCAPCD). Mitigation measures are recommended as necessary to reduce significant air quality impacts.

### 9.1 ENVIRONMENTAL SETTING

The project area is located in the western portion of Placer County, California, which is within the Sacramento Valley Air Basin (SVAB). The SVAB also comprises all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba Counties and the eastern portion of Solano County. Western Placer County is also part of the Sacramento Federal Ozone Nonattainment Area, which comprises Sacramento and Yolo Counties and parts of El Dorado, Solano, and Sutter Counties. PCAPCD works in conjunction with the air pollution control and air quality management districts of these contiguous jurisdictions to develop plans to bring the entire ozone nonattainment area into compliance.

Ambient concentrations of air pollutants are determined by the amount of emissions released by pollutant sources and the ability of the atmosphere to transport and dilute such emissions. Terrain, wind, atmospheric stability, and the presence of sunlight all affect transport and dilution. Therefore, existing air quality conditions in the project area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below.

#### 9.1.1 TOPOGRAPHY, CLIMATE, AND METEOROLOGY

Land within the SVAB is relatively flat, bordered by the north Coast Range to the west and the northern Sierra Nevada to the east. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento–San Joaquin Delta (Delta) from the San Francisco Bay Area.

The Mediterranean climate of the project area is characterized by hot, dry summers and cool, rainy winters. During the summer, daily temperatures range from 50 degrees Fahrenheit (°F) to more than 100°F. The inland location and surrounding mountains shelter the area from many of the ocean breezes that keep the coastal regions moderate in temperature.

Most precipitation in the SVAB results from air masses that move in from the Pacific Ocean, usually from the west or northwest during the winter months. More than half the total annual precipitation falls during the winter rainy season (November–February); the average winter temperature is a moderate 49°F. Periods of dense and persistent low-level fog, which are most prevalent between storms, are common during the winter months in the SVAB. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry-land flows from the north.

The mountains surrounding the SVAB create a barrier to airflow, which leads to the entrapment of air pollutants when meteorological conditions are unfavorable for transport and dilution. Poor air movement occurs most frequently in fall and winter when high-pressure cells are present over the project area and meteorological conditions are stable. The lack of surface winds during these periods, combined with the reduced vertical flow caused by less surface heating, reduces the influx of air and results in the concentration of pollutants. Surface concentrations of air pollutant emissions are highest when these conditions occur in combination with agricultural burning activities or temperature inversions, which hamper dispersion by creating a ceiling over the area and trapping air pollutants near the ground.

May–October is ozone season in the SVAB, and is characterized by poor air movement in the mornings and the arrival of the Delta sea breeze from the southwest in the afternoons. In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between reactive organic gases (ROG) and oxides of nitrogen (NO<sub>x</sub>), which in turn result in ozone formation. Typically, the Delta breeze transports air pollutants northward out of the SVAB; however, during approximately half of the time from July to September, a phenomenon known as the Schultz Eddy prevents this from occurring. The Schultz Eddy phenomenon causes the wind pattern to shift southward, blowing air pollutants back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the air basin and contributes to violations of the ambient air quality standards.

The winds and unstable atmospheric conditions associated with the passage of winter storms result in periods of low air pollution and excellent visibility. Precipitation and fog tend to reduce or limit some pollutant concentrations. For instance, clouds and fog block sunlight, which is required to fuel photochemical reactions that form ozone. Because carbon monoxide (CO) is partially water soluble, precipitation and fog also tend to reduce concentrations of CO in the atmosphere. In addition, respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM<sub>10</sub>) can be washed from the atmosphere through wet deposition processes, such as rain, snow, and fog. However, between winter storms, high pressure and light winds contribute to low-level temperature inversions and stable atmospheric conditions, resulting in the concentration of air pollutants (e.g., CO, PM<sub>10</sub>).

The local meteorology of the project area is represented by measurements recorded at the Auburn station. The normal annual precipitation, which occurs primarily from November through March, is approximately 35 inches. January temperatures range from a normal minimum of 35.9°F to a normal maximum of 54.1°F. July temperatures range from a normal minimum of 61.5°F to a normal maximum of 92.3°F (NOAA 1992). The predominant wind direction and speed is from the south-southwest at 10 mph (ARB 1994).

## 9.1.2 EXISTING AIR QUALITY—CRITERIA AIR POLLUTANTS

Concentrations of several air pollutants—ozone, CO, nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), respirable and fine particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead—are used as indicators of ambient air quality conditions. These pollutants are commonly referred to as “criteria air pollutants” because they are the most prevalent air pollutants known to be deleterious to human health, and extensive documentation is available on the health-effects criteria for these pollutants.

Source types, health effects, and future trends associated with each air pollutant are described below along with the most current attainment area designations and monitoring data for the project area and vicinity.

### OZONE

Ozone is a photochemical oxidant, a substance whose oxygen combines chemically with another substance in the presence of sunlight, and the primary component of smog. Ozone is not directly emitted into the air, but is formed through complex chemical reactions between precursor emissions of ROG and NO<sub>x</sub> in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO<sub>x</sub> are a group of gaseous compounds of nitrogen and oxygen that results from the combustion of fuels.

A highly reactive molecule, ozone readily combines with many different components of the atmosphere. Consequently, high levels of ozone tend to exist only while high ROG and NO<sub>x</sub> levels are present to sustain the ozone formation process. Once the precursors have been depleted, ozone levels rapidly decline. Because these reactions occur on a regional scale, ozone is a regional pollutant.

Ozone located in the upper atmosphere (stratosphere) acts in a beneficial manner by shielding the earth from harmful ultraviolet radiation that is emitted by the sun. However, ozone located in the lower atmosphere (troposphere) is a major health and environmental concern. Meteorology and terrain play a major role in ozone formation. Generally, low wind speeds or stagnant air coupled with warm temperatures and clear skies provide the optimum conditions for formation. As a result, summer is generally the peak ozone season. Because of the reaction time involved, peak ozone concentrations often occur far downwind of the precursor emissions. In general, ozone concentrations over or near urban and rural areas reflect an interplay of emissions of ozone precursors, transport, meteorology, and atmospheric chemistry (Godish 2004).

The adverse health effects associated with exposure to ozone pertain primarily to the respiratory system. Scientific evidence indicates that ambient levels of ozone affect not only sensitive receptors, such as asthmatics and children, but healthy adults as well. Exposure to ambient levels of ozone ranging from 0.10 part per million (ppm) to 0.40 ppm for 1–2 hours has been found to significantly alter lung functions by increasing respiratory rates and pulmonary resistance, decreasing tidal volumes (the amount of air inhaled and exhaled), and impairing respiratory mechanics. Ambient levels of ozone above 0.12 ppm are linked to such symptoms as throat dryness, chest tightness, headache, and nausea. In addition to the above adverse health effects, evidence exists relating ozone exposure to an increase in the permeability of respiratory epithelia; such increased permeability leads to an increased response of the respiratory system to challenges, and a decrease in the immune system's ability to defend against infection (Godish 2004).

Emissions of the ozone precursors ROG and NO<sub>x</sub> have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. The ozone problem in the SVAB ranks among the most severe in the state. Peak levels have not declined as much as the number of days that standards are exceeded. From 1990 to 2006, the maximum peak 8-hour indicator decreased by 12%. The numbers of state and national 8-hour exceedance days have declined by 43% and 40%, respectively. Most of this progress has occurred since 2003. However, the numbers of exceedance days in 2005 and 2006 were among the lowest in this 17-year period (ARB 2007). Data from 2005 showing the trend in 3-year averages of 8-hour ozone data indicate that only the northern portion of the SVAB now attains the federal 8-hour ozone standard (ARB 2007).

## **Carbon Monoxide**

CO is a colorless, odorless, and poisonous gas produced by incomplete burning of carbon in fuels, primarily from mobile (transportation) sources. In fact, 77% of the nationwide CO emissions are from mobile sources. The other 23% consists of CO emissions from wood-burning stoves, incinerators, and industrial sources.

CO enters the bloodstream through the lungs by combining with hemoglobin, which normally supplies oxygen to the cells. However, CO combines with hemoglobin much more readily than oxygen does, resulting in a drastic reduction in the amount of oxygen available to the cells. Adverse health effects associated with exposure to CO concentrations include such symptoms as dizziness, headaches, and fatigue. CO exposure is especially harmful to individuals who suffer from cardiovascular and respiratory diseases (EPA 2008a).

The highest CO concentrations are generally associated with cold, stagnant weather conditions that occur during the winter. In contrast to problems caused by ozone, which tends to be a regional pollutant, CO problems tend to be localized.

## **Nitrogen Dioxide**

NO<sub>2</sub> is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO<sub>2</sub> are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO<sub>2</sub> (EPA 2008a). The combined emissions of NO and NO<sub>2</sub> are referred to as NO<sub>x</sub> and reported as equivalent NO<sub>2</sub>. Because NO<sub>2</sub> is formed and depleted by reactions associated with photochemical

smog (ozone), the NO<sub>2</sub> concentration in a particular geographical area may not be representative of the local NO<sub>x</sub> emission sources.

Inhalation is the most common route of exposure to NO<sub>2</sub>. Because NO<sub>2</sub> has relatively low solubility in water, the principal site of toxicity is in the lower respiratory tract. The severity of the adverse health effects depends primarily on the concentration inhaled rather than the duration of exposure. An individual may experience a variety of acute symptoms such as coughing, difficulty with breathing, vomiting, headache, and eye irritation during or shortly after exposure. After a period of approximately 4–12 hours, an exposed individual may experience chemical pneumonitis or pulmonary edema with breathing abnormalities, cough, cyanosis, chest pain, and rapid heartbeat. Severe, symptomatic NO<sub>2</sub> intoxication after acute exposure has occasionally been linked with prolonged respiratory impairment with such symptoms as chronic bronchitis and decreased lung function (EPA 2008a).

## **Sulfur Dioxide**

SO<sub>2</sub> is produced by such stationary sources as coal and oil combustion, steel mills, refineries, and pulp and paper mills. The major adverse health effects associated with SO<sub>2</sub> exposure pertain to the upper respiratory tract. SO<sub>2</sub> is a respiratory irritant; constriction of the bronchioles occurs with inhalation of SO<sub>2</sub> at 5 ppm or more. On contact with the moist mucous membranes, SO<sub>2</sub> produces sulfurous acid, which is a direct irritant. Concentration rather than duration of exposure is an important determinant of respiratory effects. Exposure to high SO<sub>2</sub> concentrations may result in edema of the lungs or glottis and respiratory paralysis.

## **Particulate Matter**

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM<sub>10</sub>. PM<sub>10</sub> consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources; construction operations; fires and natural windblown dust; and particulate matter formed in the atmosphere by condensation and/or transformation of SO<sub>2</sub> and ROG (EPA 2008a). Fine particulate matter (PM<sub>2.5</sub>) is a subgroup of PM<sub>10</sub>, consisting of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less (ARB 2007).

The adverse health effects associated with PM<sub>10</sub> depend on the specific composition of the particulate matter. For example, health effects may be associated with metals, polycyclic aromatic hydrocarbons (PAH), and other toxic substances adsorbed onto fine particulate matter (referred to as the “piggybacking effect”), or with fine dust particles of silica or asbestos. Generally, effects may result from both short-term and long-term exposure to elevated concentrations of PM<sub>10</sub> and may include breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, alterations to the immune system, carcinogenesis, and premature death (EPA 2008a). PM<sub>2.5</sub> poses an increased health risk because the particles can deposit deep in the lungs and may contain substances that are particularly harmful to human health.

Direct emissions of PM<sub>10</sub> increased in the SVAB from 1975 and 2005 and are projected to increase through 2020. PM<sub>10</sub> emissions in the SVAB are dominated by emissions from areawide sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, dust from farming operations, fugitive dust from construction and demolition, and residential fuel combustion. Annual average PM<sub>2.5</sub> concentrations in the SVAB remained relatively steady from 1975 through 2005 and are projected to increase slightly through 2020; by contrast, annual average concentrations of PM<sub>2.5</sub> in California decreased slightly from 1999 through 2005, with more significant drops in 2001 and 2003. The trends are different because of differences in state and national monitoring methods (e.g., measurement techniques and averaging times). PM<sub>2.5</sub> emissions in the SVAB are dominated by emissions from the same areawide sources as PM<sub>10</sub> (ARB 2007).

## Lead

Lead is a metal found naturally in the environment and in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phase-out of leaded gasoline (discussed in detail below), metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers.

Twenty years ago, mobile sources were the main contributor to ambient lead concentrations in the air. In the early 1970s, the U.S. Environmental Protection Agency (EPA) set national regulations to gradually reduce the lead content in gasoline. In 1975, unleaded gasoline was introduced for motor vehicles equipped with catalytic converters. EPA banned the use of leaded gasoline in highway vehicles in December 1995 (EPA 2008a).

As a result of EPA's regulatory efforts to remove lead from gasoline, emissions of lead from the transportation sector have declined dramatically (95% between 1980 and 1999), and levels of lead in the air decreased by 94% between 1980 and 1999. Transportation sources, primarily airplanes, now contribute only 13% of lead emissions. A National Health and Nutrition Examination Survey reported a 78% decrease in the levels of lead in people's blood between 1976 and 1991. This dramatic decline can be attributed to the move from leaded to unleaded gasoline (EPA 2008a).

The decrease in lead emissions and ambient lead concentrations over the past 25 years is California's most dramatic success story with regard to air quality management. The rapid decrease in lead concentrations can be attributed primarily to phasing out the lead in gasoline. This phase-out began during the 1970s, and subsequent California Air Resources Board (ARB) regulations have virtually eliminated all lead from gasoline now sold in California. All areas of the state are currently designated as in attainment for the state lead standard (EPA does not designate areas for the national lead standard). Although the ambient lead standards are no longer violated, lead emissions from stationary sources still pose "hot spot" problems in some areas. As a result, ARB identified lead as a TAC.

## MONITORING STATION DATA AND ATTAINMENT AREA DESIGNATIONS

Concentrations of criteria air pollutants are measured at several monitoring stations in the SVAB. The Auburn–Dewitt C Avenue and Roseville–North Sunrise Avenue stations are the closest to the project area with recent data for ozone, NO<sub>2</sub>, CO, PM<sub>10</sub>, and PM<sub>2.5</sub>. Table 9-1 summarizes the air quality data from these stations for the most recent 3 years.

Both ARB and EPA use this type of monitoring data to designate areas according to attainment status for criteria air pollutants published by the agencies. The purpose of these designations is to identify areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are "nonattainment," "attainment," and "unclassified." The "unclassified" designation is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of the nonattainment designation, called "nonattainment-transitional." The nonattainment-transitional designation is given to nonattainment areas that are progressing and nearing attainment. The most recent attainment designations with respect to the Placer County portion of the SVAB are shown in Table 9-2 for each criteria air pollutant.

## EMISSIONS INVENTORY

Mobile sources are the largest contributor to the estimated annual average levels of ROG, CO, and NO<sub>x</sub> in Placer County, accounting for approximately 58%, 69%, and 87%, respectively, of the total emissions. Areawide sources account for approximately 87% and 76% of the county's PM<sub>10</sub> and PM<sub>2.5</sub> emissions, respectively. Stationary and mobile sources account for approximately 15% and 61%, respectively, of the County's emissions of oxides of sulfur (SO<sub>x</sub>) (ARB 2008a).

**Table 9-1  
Summary of Annual Ambient Air Quality Data (2004–2006)**

	2004	2005	2006
<b>OZONE</b>			
<b>Auburn—Dewitt C Avenue Monitoring Station</b>			
Maximum concentration (1-hour/8-hour average, ppm)	0.118/0.101	0.120/0.107	0.129/0.114
Number of days state standard exceeded (1-hour)	14	11	25
Number of days national 1-hour/8-hour standard exceeded	0/12	0/10	1/29
<b>CARBON MONOXIDE (CO)</b>			
<b>Roseville—North Sunrise Avenue Monitoring Station</b>			
Maximum concentration (1-hour/8-hour average, ppm)	2.6/1.93	2.0/1.27	—
Number of days state standard exceeded (8-hour)	0	0	—
Number of days national standard exceeded (1-hour/8-hour)	0/0	0/0	—
<b>NITROGEN DIOXIDE (NO<sub>2</sub>)</b>			
<b>Roseville—North Sunrise Avenue Monitoring Station</b>			
Maximum concentration (1-hour average, ppm)	0.067	0.079	0.063
Number of days state standard exceeded	0	0	0
Annual average (ppm)	0.013	0.013	0.013
<b>FINE PARTICULATE MATTER (PM<sub>2.5</sub>)</b>			
<b>Roseville—North Sunrise Avenue Monitoring Station</b>			
Maximum concentration (µg/m <sup>3</sup> ) <sup>1</sup>	47.8	59.2	54.10
Number of days national standard exceeded (measured <sup>2</sup> )	0	0	0
<b>RESPIRABLE PARTICULATE MATTER (PM<sub>10</sub>)</b>			
<b>Roseville—North Sunrise Avenue Monitoring Station</b>			
Maximum concentration (µg/m <sup>3</sup> )	43.0	58.0	55.0
Number of days state standard exceeded (measured/calculated <sup>2</sup> )	0/0	1/5.8	1/5.8
Number of days national standard exceeded (measured/calculated <sup>2</sup> )	0/0	0/0	0/0

Notes: µg/m<sup>3</sup> = micrograms per cubic meter; ppm = parts per million; — = data not available

<sup>1</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 while 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.

<sup>2</sup> Measured days are those days that an actual measurement was greater than the level of the state daily standard or the national daily standard. Measurements are typically collected every 6 days. Calculated days are the estimated number of days that a measurement would have been greater than the level of the standard had measurements been collected every day. The number of days above the standard is not necessarily the number of violations of the standard for the year.

Sources: ARB 2008b, EPA 2008b

**Table 9-2  
Summary of Ambient Air Quality Standards and Western Placer County Designations**

Pollutant	Averaging Time	California		National Standards <sup>1</sup>		
		Standards <sup>2,3</sup>	Attainment Status <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Attainment Status <sup>7</sup>
Ozone	1-hour	0.09 ppm (180 µg/m <sup>3</sup> )	N (Serious)	–	–	–
	8-hour	0.07 ppm (137 µg/m <sup>3</sup> )	–	0.08 ppm (157 µg/m <sup>3</sup> )	Same as Primary Standard	N (Serious)
Carbon Monoxide (CO)	1-hour	20 ppm (23 mg/m <sup>3</sup> )	A	35 ppm (40 mg/m <sup>3</sup> )	–	U/A
	8-hour	9 ppm (10 mg/m <sup>3</sup> )		9 ppm (10 mg/m <sup>3</sup> )		
Nitrogen Dioxide (NO <sub>2</sub> ) <sup>8</sup>	Annual Arithmetic Mean	0.030 ppm (56 µg/m <sup>3</sup> )	–	0.053 ppm (100 µg/m <sup>3</sup> )	Same as Primary Standard	U/A
	1-hour	0.18 ppm (338 µg/m <sup>3</sup> )	A	–		–
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	–	–	0.030 ppm (80 µg/m <sup>3</sup> )	–	U
	24-hour	0.04 ppm (105 µg/m <sup>3</sup> )	A	0.14 ppm (365 µg/m <sup>3</sup> )	–	
	3-hour	–	–	–	0.5 ppm (1300 µg/m <sup>3</sup> )	
	1-hour	0.25 ppm (655 µg/m <sup>3</sup> )	A	–	–	–
Respirable Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	N	–	Same as Primary Standard	A
	24-hour	50 µg/m <sup>3</sup>		150 µg/m <sup>3</sup>		
Fine Particulate Matter (PM <sub>2.5</sub> )	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	N	15 µg/m <sup>3</sup>	Same as Primary Standard	U
	24-hour	–	–	35 µg/m <sup>3</sup>		
Lead <sup>9</sup>	30-day Average	1.5 µg/m <sup>3</sup>	A	–	–	–
	Calendar Quarter	–	–	1.5 µg/m <sup>3</sup>	Same as Primary Standard	–
Sulfates	24-hour	25 µg/m <sup>3</sup>	A	No National Standards		
Hydrogen Sulfide	1-hour	0.03 ppm (42 µg/m <sup>3</sup> )	U			
Vinyl Chloride <sup>9</sup>	24-hour	0.01 ppm (26 µg/m <sup>3</sup> )	U/A			

**Table 9-2  
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Pollutant	Averaging Time	California		National Standards <sup>1</sup>		
		Standards <sup>2,3</sup>	Attainment Status <sup>4</sup>	Primary <sup>3,5</sup>	Secondary <sup>3,6</sup>	Attainment Status <sup>7</sup>
Visibility-Reducing Particle Matter	8-hour	Extinction coefficient of 0.23 per kilometer—visibility of 10 miles or more (0.07—30 miles or more for Lake Tahoe) because of particles when the relative humidity is less than 70%.	U		No National Standards	

Notes:  $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter; ppm = parts per million

<sup>1</sup> National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) 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. The  $\text{PM}_{10}$  24-hour standard is attained when 99% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. The  $\text{PM}_{2.5}$  24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standard. Contact the U.S. Environmental Protection Agency for further clarification and current federal policies.

<sup>2</sup> California standards for ozone, CO (except Lake Tahoe),  $\text{SO}_2$  (1- and 24-hour),  $\text{NO}_2$ , particulate matter, 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>3</sup> Concentration expressed first in units in which it was issued (i.e., parts per million [ppm] or micrograms per cubic meter [ $\mu\text{g}/\text{m}^3$ ]). 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>4</sup> Unclassified (U): The data are incomplete and do not support a designation of attainment or nonattainment.

Attainment (A): The state standard for that pollutant was not violated at any site in the area during a 3-year period.

Nonattainment (N): There was at least one violation of a state standard for that pollutant in the area.

Nonattainment/Transitional (NT) (a subcategory of the nonattainment designation): The area is close to attaining the standard for that pollutant.

<sup>5</sup> National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.

<sup>6</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>7</sup> Nonattainment (N): Any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the national primary or secondary ambient air quality standard for the pollutant.

Attainment (A): Any area that meets the national primary or secondary ambient air quality standard for the pollutant.

Unclassifiable (U): Any area that cannot be classified on the basis of available information as meeting or not meeting the national primary or secondary ambient air quality standard for the pollutant.

<sup>8</sup> On February 19, 2008, the Office of Administrative Law approved a new  $\text{NO}_2$  ambient air quality standard, which lowers the 1-hour standard to 0.19 ppm and establishes a new annual standard of 0.030 ppm. These changes became effective March 20, 2008.

<sup>9</sup> ARB has identified lead and vinyl chloride as toxic air contaminants with no threshold 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.

Sources: ARB 2008c, 2008d; EPA 2008c

### 9.1.3 EXISTING AIR QUALITY—TOXIC AIR CONTAMINANTS

Concentrations of TACs, or in federal parlance, hazardous air pollutants (HAPs), are also used as indicators of ambient-air-quality conditions. A TAC is defined as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

According to the *California Almanac of Emissions and Air Quality* (ARB 2007), most of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being particulate matter from diesel-fueled engines (diesel PM). Diesel PM differs from other TACs in that it is not a single substance, but a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of the emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and presence or absence of an emission control system.

Unlike the other TACs, no ambient monitoring data are available for diesel PM because no routine measurement method currently exists. However, ARB has made preliminary estimates of concentrations based on a PM exposure method. This method uses the ARB emissions inventory's PM<sub>10</sub> database, ambient PM<sub>10</sub> monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene.

Diesel PM poses the greatest health risk among these 10 TACs. Based on receptor modeling techniques, ARB estimated the diesel PM health risk in the SVAB in 2000 to be 360 excess cancer cases per million people. The health risk of diesel PM in the SVAB has been reduced by 52% since 1990. In that time, levels of all TACs except para-dichlorobenzene, acetaldehyde and formaldehyde have declined (ARB 2007).

According to ARB's Community Health Air Pollution Information System, no major stationary sources of TACs are located within 2 miles of the project area (ARB 2008e, 2008f). Vehicles on Garden Bar Road, Mt. Pleasant Road, Mt. Vernon Road, and other roads in the vicinity are sources of diesel PM and other TACs associated with vehicle exhaust.

#### NATURALLY OCCURRING ASBESTOS

Naturally occurring asbestos may be found in at least 44 of California's 58 counties. Asbestos is the name for a group of naturally occurring silicate minerals. Exposure to asbestos may result in inhalation or ingestion of asbestos fibers, which over time may result in damage to the lungs or membranes that cover the lungs, leading to illness or even death.

Naturally occurring asbestos, often found in serpentine rock formations, is present in several foothill areas of the county. When material containing naturally occurring asbestos is disturbed, asbestos fibers may be released and become airborne, thereby creating a potential health hazard.

The California Geological Survey has recently developed an enhanced 1:1,000,000 scale map that has improved the overall identification of locations in the county. The map denotes areas of the county that are more or less likely to contain naturally occurring asbestos, based on available soil and geologic studies and some field verification. Where an area is characterized as having a lower overall probability of presence of naturally occurring asbestos, the likelihood of presence is slight, but in some instances naturally occurring asbestos might be found within such an area. Similarly, a location in the area identified as being most likely to have naturally occurring asbestos may not contain it.

The California Geological Survey's map shows areas of higher probability for asbestos-containing rock within the broad zone of faults that follow the low foothills and lie in a southeast-to-northwest band (Higgins and Clinkenbeard 2006). The communities of Auburn, Colfax, Meadow Vista, and Foresthill are among those that are within this fault band. Generally, there are no areas of high probability of occurrence of naturally occurring asbestos in areas of the county west of Folsom Lake or south of Wise Road. The communities of Roseville, Granite Bay, Rocklin, Lincoln, Loomis, Penryn, and Newcastle lie within geologic areas that have a lower probability for the presence of naturally occurring asbestos. There are some isolated areas of higher probability of presence of naturally occurring asbestos within the Tahoe National Forest.

Deposits of naturally occurring asbestos have been found in rock other than ultramafic and serpentine rock; for example, deposits have been found in metavolcanic rocks such as the Copper Hill Volcanics in the Folsom vicinity. Metavolcanic rock formations are prevalent to the northeast, north, and west of Auburn. Finally, in areas of sedimentary or alluvial rock deposits like those in western Placer County, it is possible that analytically detectable naturally occurring asbestos may be found.

According to *Relative Likelihood for the Presence of Naturally Occurring Asbestos in Placer County, California* (Higgins and Clinkenbeard 2006) and *A General Location Guide for Ultramafic Rocks in California—Areas More Likely to Contain Naturally Occurring Asbestos* (Churchill and Hill 2000), the project area is located in an area that is moderately likely to contain naturally occurring asbestos.

#### **9.1.4 EXISTING AIR QUALITY—ODORS**

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).

The human nose is the sole sensing device for odors. The ability to detect odors varies considerably among the population and is quite subjective. Some individuals can smell very minute quantities of specific substances; others may not have the same sensitivity but may be sensitive to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person (e.g., an odor from a fast food restaurant) may be perfectly acceptable to another. It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition occurs only with an alteration in the intensity.

Quality and intensity are two properties present in any odor. The quality of an odor indicates the nature of the smell experience. For instance, if a person describes an odor as flowery or sweet, then the person is describing the quality of the odor. Intensity refers to the strength of the odor. For example, a person may use the word "strong" to describe the intensity of an odor. Odor intensity depends on the odorant concentration in the air. When an odorous sample is progressively diluted, the odorant concentration decreases. As this occurs, the odor intensity weakens and eventually becomes so low that the odor is quite difficult to detect or recognize. At some point during dilution, the concentration of the odorant reaches a detection threshold. An odorant concentration below the detection threshold means that the concentration in the air is not detectable by the average human.

There are no notable sources of disagreeable odors in the vicinity of the project area.

#### **9.1.5 EXISTING AIR QUALITY—GREENHOUSE GASES AND GLOBAL CLIMATE CHANGE**

Certain gases in the earth's atmosphere, classified as greenhouse gases (GHGs), play a critical role in determining the earth's surface temperature. Solar radiation enters the earth's atmosphere from space. A portion of the radiation is absorbed by the earth's surface, and a smaller portion of this radiation is reflected back toward space.

This absorbed radiation is then emitted from the earth, not as high-frequency solar radiation, but as lower frequency infrared radiation. The frequencies at which bodies emit radiation are proportional to temperature. The earth has a much lower temperature than the sun; therefore, the earth emits lower frequency (longer wavelength) radiation. Most solar radiation passes through GHGs; however, GHGs have strong absorption properties in wavelength bands along the electromagnetic spectrum where the atmosphere, in its natural composition, does not. This range of absorption spectra (from wavelengths of 8–13 micrometers) is known as the “infrared atmospheric window” region of the electromagnetic spectrum, where infrared radiation is selectively absorbed by GHGs. As a result, radiation that otherwise would have escaped back into space is instead “trapped,” resulting in a warming of the atmosphere. This phenomenon, known as the “greenhouse effect,” is responsible for maintaining a habitable climate on the earth. Without the greenhouse effect, the planet would not be able to support life as we know it.

Prominent GHGs contributing to the greenhouse effect include carbon dioxide (CO<sub>2</sub>), methane (CH<sub>4</sub>), ozone, nitrous oxide (N<sub>2</sub>O), and fluorinated compounds. Human-caused emissions of these GHGs exceeding natural ambient concentrations are responsible for intensifying the greenhouse effect and have led to a trend of unnatural warming of the earth’s climate, known as global climate change or global warming (Ahrens 2003). It is extremely unlikely that global climate change of the past 50 years can be explained without the contribution from human activities (IPCC 2007).

Climate change is a global problem. GHGs are global pollutants, unlike criteria air pollutants and TACs, which are pollutants of regional and local concern. Whereas pollutants with localized air quality effects have relatively short atmospheric lifetimes (about 1 day), GHGs have long atmospheric lifetimes (1 year to several thousand years). GHGs persist in the atmosphere long enough to be dispersed around the globe. Although the exact lifetime of any particular GHG molecule depends on multiple variables and cannot be pinpointed, it is understood that more CO<sub>2</sub> is emitted into the atmosphere than is sequestered by ocean uptake, vegetation, and other forms of sequestration. Of the total annual human-caused CO<sub>2</sub> emissions, approximately 54% is sequestered through ocean uptake, uptake by forest regrowth in the Northern Hemisphere, and other terrestrial sinks within a year, whereas the remaining 46% of human-caused CO<sub>2</sub> emissions remains stored in the atmosphere (Seinfeld and Pandis 1998).

Similarly, impacts of GHGs are borne globally, as opposed to localized air quality effects of criteria air pollutants and TACs. The quantity of GHGs that it takes to ultimately result in climate change is not precisely known; suffice it to say, the quantity is enormous, and no single project alone would be expected to measurably contribute to a noticeable incremental change in the global average temperature, or to the global, local, or micro climates.

Emissions of GHGs contributing to global climate change are attributable in large part to human activities associated with the industrial/manufacturing, utility, transportation, residential, and agricultural sectors (CEC 2006a). In California, the transportation sector is the largest emitter of GHGs, followed by electricity generation (CEC 2006a). Emissions of CO<sub>2</sub> are byproducts of fossil fuel combustion. CH<sub>4</sub>, a highly potent GHG, results from off-gassing (the release of chemicals from nonmetallic substances under ambient or greater pressure conditions) largely associated with agricultural practices and landfills. CO<sub>2</sub> sinks, or reservoirs, include vegetation and the ocean, which absorb CO<sub>2</sub> through photosynthesis and dissolution, respectively, two of the most common processes of CO<sub>2</sub> sequestration.

California is the 12th to 16th largest emitter of CO<sub>2</sub> when compared to the nations of the world (CEC 2006a). California produced 484 million gross metric tons of CO<sub>2</sub> equivalent (CO<sub>2</sub>e) in 2004. CO<sub>2</sub>e is a measurement used to account for the fact that different GHGs have different potential to retain infrared radiation in the atmosphere and contribute to the greenhouse effect. This potential, known as the global warming potential (GWP) of a GHG, depends on the lifetime, or persistence, of the gas molecule in the atmosphere. For example, as described in Appendix D, “Calculation References,” of the *California Climate Action Registry General Reporting Protocol* (CCAR 2008), 1 ton of CH<sub>4</sub> has the same contribution to the greenhouse effect as approximately 23 tons of CO<sub>2</sub>. Therefore, CH<sub>4</sub> is a much more potent GHG than CO<sub>2</sub>. Expressing emissions in CO<sub>2</sub>e takes the contributions of

all GHG emissions to the greenhouse effect and converts them to a single unit equivalent to the effect that would occur if only CO<sub>2</sub> were being emitted.

Combustion of fossil fuels in the transportation sector was the single largest source of California's GHG emissions in 2004, accounting for 41% of total GHG emissions in the state (CEC 2006a). This sector was followed by the electric power sector (including both in-state and out-of-state sources) (22%) and the industrial sector (21%) (CEC 2006a).

Climate change has the potential to affect many resources, including through sea level rise. Sea level rose approximately 7 inches during the last century (CEC 2006b), and it is predicted to rise an additional 7–23 inches by 2100, depending on the future levels of GHG emissions (IPCC 2007). If this occurs, resultant effects could include increased coastal flooding, saltwater intrusion (especially a concern in the low-lying Delta, where pumps delivering potable water could be threatened), and disruption of wetlands (CEC 2006b). As the existing climate throughout California changes over time, the ranges of various plant and wildlife species could shift or be reduced, depending on the favored temperature and moisture regimes of each species. In the worst cases, some species would become extinct or be extirpated from the state if suitable conditions are no longer available. Additional concerns associated with climate change are a reduction in the snowpack, which would lead to less overall water storage in the mountains (the largest “reservoir” in the state), and increased risk of wildfire because of changes in rainfall and plant community makeup.

## **9.2 REGULATORY SETTING**

Air quality in Placer County is regulated by EPA, ARB, PCAPCD, and the County. Each of these agencies develops rules, regulations, policies, and/or goals to comply with applicable legislation. Although EPA regulations may not be superseded, both state and local regulations may be more stringent.

### **9.2.1 CRITERIA AIR POLLUTANTS**

#### **FEDERAL PLANS, POLICIES, REGULATIONS, AND LAWS**

EPA has been 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 were in 1990.

The CAA required EPA to establish national ambient air quality standards (NAAQS). As shown in Table 9-2, EPA has established primary and secondary NAAQS for ozone, CO, NO<sub>2</sub>, SO<sub>2</sub>, PM<sub>10</sub>, PM<sub>2.5</sub>, and lead. The primary standards protect the public health and the secondary standards protect public welfare. 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. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. EPA must review all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and to determine whether implementing them will achieve air quality goals. If EPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may cause sanctions to be applied to transportation funding and stationary air pollution sources in the air basin.

#### **STATE PLANS, POLICIES, REGULATIONS, AND LAWS**

ARB is 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, which was adopted in 1988, required

ARB to establish California ambient air quality standards (CAAQS) (Table 9-2). ARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. In most cases the CAAQS are more stringent than the NAAQS. Differences in the standards are generally explained by the health effects studies considered during the standard-setting process and the interpretation of the studies. In addition, the CAAQS incorporate a margin of safety to protect sensitive individuals.

The CCAA requires that all local air districts in the state endeavor to achieve and maintain the CAAQS by the earliest practical date. The act specifies that local air districts should focus particular attention on reducing the emissions from transportation and areawide emission sources, and provides districts with the authority to regulate indirect sources.

Among ARB's other responsibilities are overseeing local air districts' compliance with California and federal laws, approving local air quality plans, submitting SIPs to EPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels. There are 15 nonattainment areas for the national ozone standard and two nonattainment areas for the PM<sub>2.5</sub> standard. The Ozone SIP and PM<sub>2.5</sub> SIP were due to EPA by June 2007 and April 2008, respectively. The SIP must show how each area will attain the federal standards. To do this, the SIP identifies the amount of pollution emissions that must be reduced in each area to meet the standard and the emission controls needed to reduce the necessary emissions.

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>. The draft statewide air quality plan was released in April 2007 (ARB 2008g).

## **LOCAL PLANS, POLICIES, REGULATIONS, AND LAWS**

### **Placer County Air Pollution Control District**

PCAPCD attains and maintains air quality conditions in Placer County through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean-air strategy of PCAPCD includes the preparation of plans and programs for the attainment of ambient air-quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. PCAPCD also inspects stationary sources of air pollution, responds to citizen complaints, monitors ambient air quality and meteorological conditions, and implements programs and regulations required by the CAA, CAAA, and CCAA. Air quality plans applicable to the proposed project are discussed below.

#### ***Air Quality Plans***

PCAPCD in coordination with the air quality management districts and air pollution control districts of El Dorado, Sacramento, Solano, Sutter, and Yolo Counties prepared and submitted the 1991 *Air Quality Attainment Plan* (AQAP) in compliance with the requirements set forth in the CCAA, which specifically addressed the nonattainment status for ozone and, to a lesser extent, CO and PM<sub>10</sub>. The CCAA also requires a triennial assessment of the extent of air quality improvements and emission reductions achieved through the use of control measures. As part of the assessment, the attainment plan must be reviewed and, if necessary, revised to correct for deficiencies in progress and to incorporate new data or projections. The requirement of the CCAA for a first triennial progress report and revision of the 1991 AQAP was fulfilled with the preparation and adoption of the 1994 *Ozone Attainment Plan* (OAP). The OAP stresses attainment of ozone standards and focuses on strategies for reducing ROG and NO<sub>x</sub>. It promotes active public involvement, enforcement of compliance with PCAPCD rules and regulations, public education in both the public and private sectors, development and promotion of transportation and land use programs designed to reduce vehicle miles traveled (VMT) within the region, and implementation of control measures for stationary and mobile sources. The OAP became part of the SIP in

accordance with the requirements of the CAAA and amended the 1991 AQAP. However, at that time the region could not show that the national ozone (1-hour) standard would be met by 1999. In exchange for moving the deadline to 2005, the region accepted a designation of “severe nonattainment” coupled with additional emissions requirements on stationary sources. Additional triennial reports were also prepared in 1997, 2000, and 2003 in compliance with the CCAA that act as incremental updates.

As a nonattainment area, the region is also required to submit rate-of-progress milestone evaluations in accordance with the CAAA. Milestone reports were prepared for 1996, 1999, 2002, and most recently in 2006 for the 8-hour ozone standard. These milestone reports include compliance demonstrations that the requirements have been met for the Sacramento nonattainment area. The AQAPs and reports present comprehensive strategies to reduce emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> from stationary, area, mobile, and indirect sources. Such strategies include the adoption of rules and regulations; enhancement of CEQA participation; implementation of a new and modified indirect-source review program; adoption of local air quality plans; and control measures for stationary, mobile, and indirect sources.

The Sacramento region was classified by EPA as a “serious” nonattainment area on June 15, 2004, for the national 8-hour ozone standard with an attainment deadline of June 15, 2013. Emission reduction needs to achieve the air quality standard were identified using an air quality modeling analysis. An evaluation of proposed new control measures and associated VOC and NO<sub>x</sub> emission reductions concluded that no set of feasible controls were available to provide the needed emission reductions before the attainment deadline year. Given the magnitude of the shortfall in emission reductions, and the schedule for implementing new control measures, the earliest possible attainment demonstration year for the Sacramento region is determined to be the “severe” area deadline of 2019.

Section 181(b)(3) of the CAA permits a state to request that EPA reclassify a nonattainment area to a higher classification and extend the time allowed for attainment. This process is appropriate for areas that must rely on longer-term strategies to achieve the emission reductions needed for attainment.

The Board of Director’s for each of the five air districts (including PCAPCD) which comprises the Sacramento Federal Nonattainment Area (SFNA) requested that ARB submit a formal request for voluntary reclassification from a “serious” to a “severe” for the 8-hour ozone nonattainment area with an associated attainment deadline of June 15, 2019. ARB submitted that request on February 14, 2008.

On March 24, 2008, EPA published in the Federal Register a finding of Failure to Submit the 2011 Reasonable Further Progress Plan for the SFNA in the Federal Register. The Failure to Submit finding triggered sanctions clocks, which include:

- 1. Offset sanctions:** More stringent emission mitigation requirements for new and modified businesses, “major stationary sources” if a complete plan is not submitted within 18 months after EPA findings of failure to submit the plan.
- 2. Federal Highway funding sanctions:** Prohibiting transportation projects from receiving federal transportation funding if a complete plan is not submitted within 24 months after EPA findings.

The sanctions clocks will stop once the Air Districts (including PCAPCD) submit the 2011 Reasonable Further Progress Plan and the USEPA accepts the plan as complete. The *Sacramento Regional Nonattainment Area 8-Hour Attainment Demonstration Plan* is scheduled to be published at the end of September 2008 (SMAQMD 2008).

## **PCAPCD Rules**

As mentioned above, PCAPCD adopts rules and regulations. All projects are subject to PCAPCD rules and regulations in effect at the time of construction. The following specific rules are applicable to construction of the proposed project:

**Rule 202—Visible Emissions.** A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than 3 minutes in any 1 hour which is as dark or darker in shade as that designated as number 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

**Rule 205—Nuisance.** A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health, or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property. The provisions of Rule 205 do not apply to odors emanating from agriculture operations necessary for the growing of crops or raising of fowl or animals.

**Rule 217—Cutback and Emulsified Asphalt Paving Materials.** A person shall not manufacture for sale nor use for paving, road construction, or road maintenance any: rapid cure cutback asphalt; slow cure cutback asphalt containing organic compounds which evaporate at 500°F or lower as determined by current American Society for Testing and Materials (ASTM) Method D402; medium cure cutback asphalt except as provided in Section 1.2; or emulsified asphalt containing organic compounds which evaporate at 500°F or lower as determined by current ASTM Method D244, in excess of 3% by volume.

**Rule 218—Application of Architectural Coatings.** No person shall manufacture, blend, or repackage for sale within PCAPCD; supply, sell, or offer for sale within PCAPCD; or solicit for application or apply within the PCAPCD, any architectural coating with a volatile organic carbon (VOC) content in excess of the corresponding specified manufacturer's maximum recommendation.

**Rule 228—Fugitive Dust.**

***Visible Emissions Not Allowed Beyond the Boundary Line:*** A person shall not cause or allow the emissions of fugitive dust from any active operation, open storage pile, or disturbed surface area (including disturbance as a result of the raising and/or keeping of animals or by vehicle use), such that the presence of such dust remains visible in the atmosphere beyond the boundary line of the emission source.

***Visible Emissions from Active Operations:*** In addition to the requirements of Rule 202, Visible Emissions, a person shall not cause or allow fugitive dust generated by active operations, an open storage pile, or a disturbed surface area, such that the fugitive dust is of such opacity as to obscure an observer's view to a degree equal to or greater than does smoke as dark or darker in shade as that designated as number 2 on the Ringelmann Chart, as published by the United States Bureau of Mines.

***Concentration Limit:*** A person shall not cause or allow PM<sub>10</sub> levels to exceed 50 micrograms per cubic meter (µg/m<sup>3</sup>) (24-hour average) when determined, by simultaneous sampling, as the difference between upwind and downwind samples collected on high-volume particulate matter samplers or other EPA-approved equivalent method for PM<sub>10</sub> monitoring.

***Track-Out onto Paved Public Roadways:*** Visible roadway dust as a result of active operations, spillage from transport trucks, and the track-out of bulk material onto public paved roadways shall be minimized and removed.

The track-out of bulk material onto public paved roadways as a result of operations, or erosion, shall be minimized by the use of track-out and erosion control, minimization, and preventative measures, and removed

within 1 hour from adjacent streets such material any time track-out extends for a cumulative distance of greater than 50 feet onto any paved public road during active operations.

All visible roadway dust tracked out upon public paved roadways as a result of active operations shall be removed at the conclusion of each work day when active operations cease, or every 24 hours for continuous operations. Wet sweeping or a High Efficiency Particulate Air (HEPA) filter-equipped vacuum device shall be used for roadway dust removal.

Any material tracked out, or carried by erosion, and clean-up water, shall be prevented from entering waterways or storm water inlets as required to comply water quality control requirements.

***Minimum Dust Control Requirements:*** The following dust mitigation measures are to be initiated at the start and maintained throughout the duration of the construction or grading activity, including any construction or grading for road construction or maintenance.

- ▶ Unpaved areas subject to vehicle traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered.
- ▶ The speed of any vehicles and equipment traveling across unpaved areas must be no more than 15 miles per hour unless the road surface and surrounding area is sufficiently stabilized to prevent vehicles and equipment traveling more than 15 miles per hour from emitting dust exceeding Ringelmann 2 or visible emissions from crossing the project boundary line.
- ▶ Storage piles and disturbed areas not subject to vehicular traffic must be stabilized by being kept wet, treated with a chemical dust suppressant, or covered when material is not being added to or removed from the pile.
- ▶ Prior to any ground disturbance, including grading, excavating, and land clearing, sufficient water must be applied to the area to be disturbed to prevent emitting dust exceeding Ringelmann 2 and to minimize visible emissions from crossing the boundary line.
- ▶ Construction vehicles leaving the site shall be cleaned to prevent dust, silt, mud, and dirt from being released or tracked off-site.
- ▶ When wind speeds are high enough to result in dust emissions crossing the boundary line, despite the application of dust mitigation measures, grading and earthmoving operations shall be suspended.
- ▶ No trucks are allowed to transport excavated material off-site unless the trucks are maintained such that no spillage can occur from holes or other openings in cargo compartments, and loads are either covered with tarps; or wetted and loaded such that the material does not touch the front, back, or sides of the cargo compartment at any point less than 6 inches from the top and that no point of the load extends above the top of the cargo compartment.

***Wind-Driven Fugitive Dust Control:*** A person shall take action(s), such as surface stabilization, establishment of a vegetative cover, or paving, to minimize wind-driven dust from inactive disturbed surface areas.

**Rule 501—General Permit Requirement:** Any person operating an article, machine, equipment or other contrivance, the use of which may cause, eliminate, reduce, or control the issuance of air contaminants, shall first obtain a written permit from the Air Pollution Control Officer (APCO). Stationary sources subject to the requirements of Rule 507, Federal Operating Permit Program, must also obtain a Title V permit pursuant to the requirements and procedures of that rule.

## PLACER COUNTY

The following are relevant goals and policies identified by the *Placer County General Plan* (Placer County 1994) for air quality.

**GOAL 6.F:** To protect and improve air quality in Placer County.

- ▶ **Policy 6.F.1.** The County shall cooperate with other agencies to develop a consistent and effective approach to air quality planning and management.
- ▶ **Policy 6.F.2.** The County shall develop mitigation measures to minimize stationary source and area source emissions.
- ▶ **Policy 6.F.3.** The County shall support the PCAPCD in its development of improved ambient air quality monitoring capabilities and the establishment of standards, thresholds, and rules to more adequately address the air quality impacts of new development.
- ▶ **Policy 6.F.4.** The County shall solicit and consider comments from local and regional agencies on proposed projects that may affect regional air quality.
- ▶ **Policy 6.F.5.** The County shall encourage project proponents to consult early in the planning process with the County regarding the applicability of Countywide indirect and areawide source programs and transportation control measure (TCM) programs. Project review shall address energy-efficient building and site designs and proper storage, use, and disposal of hazardous materials.
- ▶ **Policy 6.F.6.** The County shall require project-level environmental review to include identification of potential air quality impacts and designation of design and other appropriate mitigation measures or offset fees to reduce impacts. The County shall dedicate staff to work with project proponents and other agencies in identifying, ensuring the implementation of, and monitoring the success of mitigation measures.
- ▶ **Policy 6.F.7.** The County shall encourage development to be located and designed to minimize direct and indirect air pollutants.
- ▶ **Policy 6.F.8.** The County shall submit development proposals to the PCAPCD for review and comment in compliance with CEQA prior to consideration by the appropriate decision-making body.
- ▶ **Policy 6.F.9.** In reviewing project applications, consider alternatives or amendments that reduce emissions of air pollutants.
- ▶ **Policy 6.F.10.** The County may require new development projects to submit an air quality analysis for review and approval. Based on this analysis, the County shall require appropriate mitigation measures consistent with the PCAPCD's 1991 Air Quality Attainment Plan (or updated edition).

**GOAL 6.G:** To integrate air quality planning with the land use and transportation planning process.

- ▶ **Policy 6.G.1.** The County shall require new development to be planned to result in smooth flowing traffic conditions for major roadways. This includes traffic signals and traffic signal coordination, parallel roadways, and intra- and inter-neighborhood connections where significant reductions in overall emissions can be achieved.
- ▶ **Policy 6.G.2.** The County shall continue and, where appropriate, expand the use of synchronized traffic signals on roadways susceptible to emissions improvement through approach control.

- ▶ **Policy 6.G.3.** The County shall encourage the use of alternative modes of transportation by incorporating public transit, bicycle, and pedestrian modes in County transportation planning and by requiring new development to provide adequate pedestrian and bikeway facilities.
- ▶ **Policy 6.G.4.** The County shall consider instituting disincentives for single-occupant vehicle trips, including limitations in parking supply in areas where alternative transportation modes are available and other measures identified by PCAPCD and incorporated into regional plans.
- ▶ **Policy 6.G.5.** The County shall endeavor to secure adequate funding for transit services so that transit is a viable transportation alternative. New development shall pay its fair share of the cost of transit equipment and facilities required to serve new projects.
- ▶ **Policy 6.G.6.** The County shall require large new developments to dedicate land for and construct appropriate improvements for park-and-ride lots, if suitably located.
- ▶ **Policy 6.G.7.** The County shall require stationary-source projects that generate significant amounts of air pollutants to incorporate air quality mitigation in their design.

## 9.2.2 TOXIC AIR CONTAMINANTS

Air quality regulations also focus on TACs. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no threshold level below which adverse health impacts may not be expected to occur. This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 9-2). Instead, EPA and ARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum available control technology for toxics (MACT) or best available control technology for toxics (BACT) to limit emissions. These in conjunction with additional rules set forth by PCAPCD establish the regulatory framework for TACs.

### FEDERAL HAZARDOUS AIR POLLUTANT PROGRAMS

EPA has programs for identifying and regulating HAPs. Title III of the CAAA directed EPA to promulgate national emissions standards for HAPs (NESHAP). The NESHAP for major sources of HAPs may differ from those for area sources. Major sources are defined as stationary sources with potential to emit more than 10 tons per year (tpy) of any HAP or more than 25 tpy of any combination of HAPs; all other sources are considered area sources.

The CAAA called on EPA to promulgate emissions standards in two phases. In the first phase (1992–2000), EPA developed technology-based emissions standards designed to reduce emissions as much as feasible. These standards are generally referred to as requiring MACT. For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), EPA is required to promulgate health risk–based emissions standards where deemed necessary to address risks remaining after implementation of the technology-based NESHAP standards.

The CAAA also required EPA to promulgate vehicle or fuel standards containing reasonable requirements that control toxic emissions of, at a minimum, benzene and formaldehyde. Performance criteria were established to limit mobile-source emissions of benzene, formaldehyde, and 1,3-butadiene. In addition, Section 219 of the CAAA required the use of reformulated gasoline in selected areas with the most severe ozone nonattainment conditions to further reduce mobile-source emissions.

## STATE AND LOCAL PROGRAMS FOR TOXIC AIR CONTAMINANTS

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807 [Chapter 1047, Statutes of 1983]) and the Air Toxics Hot Spots Information and Assessment Act (AB 2588 [Chapter 1252, Statutes of 1987]). AB 1807 sets forth a formal procedure for ARB to designate substances as TACs. Research, public participation, and scientific peer review must occur before ARB can designate a substance as a TAC. To date, ARB has identified more than 21 TACs and adopted EPA's list of HAPs as TACs. Most recently, diesel PM was added to the ARB list of TACs.

Once a TAC is identified, ARB then adopts an airborne toxics control measure (ATCM) for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate BACT to minimize emissions; for example, the ATCM limits truck idling to 5 minutes (Title 13, Section 2485 of the California Code of Regulations [i.e., 13 CCR Section 2485]).

The Hot Spots Act requires that existing facilities that emit toxic substances above a specified level prepare an inventory of toxic emissions, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

ARB has adopted control measures for diesel exhaust and more stringent emissions standards for various on-road mobile sources of emissions, including transit buses and off-road diesel equipment (e.g., tractors, generators). In February 2000, ARB adopted a new rule for public-transit bus fleets and emissions standards for new urban buses. These new rules and standards include all of the following elements:

- ▶ more stringent emission standards for some new urban bus engines, beginning with 2002 model year engines;
- ▶ zero-emission bus demonstration and purchase requirements applicable to transit agencies; and
- ▶ reporting requirements, under which transit agencies must demonstrate compliance with the public-transit bus fleet rule.

Recent and future milestones include the low-sulfur diesel fuel requirement and tighter emissions standards for heavy-duty diesel trucks (2007) and off-road diesel equipment (2011) nationwide. Over time, replacing older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1,3-butadiene, diesel PM) have been reduced significantly over the last decade, and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With implementation of ARB's Risk Reduction Plan, it is expected that diesel PM concentrations will be reduced by 75% in 2010 and 85% in 2020 from the estimated year-2000 level. Adopted regulations are also expected to continue to reduce formaldehyde emissions from cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

*Air Quality and Land Use Handbook: A Community Health Perspective*, published by ARB, provides guidance on land use compatibility with sources of TACs (ARB 2005). The handbook is not a law or adopted policy but offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities, to help keep children and other sensitive populations out of harm's way.

State regulations on asbestos are related to demolition and renovations, and waste disposal of asbestos-containing materials. California also has a statewide regulation covering naturally occurring asbestos. The Asbestos ATCM for Asbestos-Containing Serpentine, adopted in 1990, prohibited the use of serpentine aggregate for surfacing if the asbestos content was 5% or more asbestos. The limit on asbestos content was lowered to 0.25% in 2000 and modified to include ultramafic rock.

In July 2001, ARB adopted an ATCM for construction, grading, quarrying, and surface mining operations that regulates grading and excavation activities in areas of serpentine or ultramafic rocks. In addition, the Governor's Office of Planning and Research issued a memorandum providing guidance to lead agencies in analyzing the impacts of naturally occurring asbestos during the CEQA review process.

At the local level, air pollution control or management districts may adopt and enforce ARB control measures. Under PCAPCD Rule 501 (General Permit Requirements), Rule 502 (New Source Review), and Rule 507 (Federal Operating Permit), all sources that possess the potential to emit TACs must obtain permits from the district. Permits may be granted to these operations if they are constructed and operated in accordance with applicable regulations, including new-source review standards and air toxics control measures. PCAPCD limits emissions and public exposure to TACs through a number of programs. The district prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

Sources that require a permit are analyzed by PCAPCD (e.g., through a health risk assessment) based on their potential to emit toxics. A health risk assessment is a tool used to determine the exposure of sensitive receptors to TAC emissions based on a 70-year exposure period. If it is determined that the project will emit toxics in excess of PCAPCD's threshold of significance for TACs, as identified below, sources have to implement the best available control technology for TACs (T-BACT) to reduce emissions. If a source cannot reduce the risk below the threshold of significance even after T-BACT has been implemented, PCAPCD will deny the permit required by the source. This helps to prevent new problems and reduces emissions from existing older sources by requiring them to apply new technology when retrofitting with respect to TACs. It is important to note that the air quality permitting process applies only to stationary sources; properties that may be exposed to elevated levels of TACs from nonstationary sources (e.g., vehicles) and the nonstationary sources themselves are not subject to this process or to any requirements of T-BACT implementation. Rather, emissions controls on nonstationary sources are subject to regulations implemented on the state and federal level.

PCAPCD also enforces ARB's Asbestos ATCM to control dust emissions and human exposure to the asbestos fibers found in serpentine and ultramafic rock (and soil derived from those substrates). The ATCM can be summarized as follows (ARB 2004): Large construction projects are required to prepare a dust mitigation plan and receive approval from the district before the start of the project. The plan must specify measures that will be taken to ensure that no visible dust crosses the property line and must address specific topics. The dust mitigation plan must address control of emissions from track-out, disturbed surface areas, storage piles, on-site vehicle traffic, off-site transport of material, and earthmoving activities. The plan must also address postconstruction stabilization and air monitoring (if required by the district). Table 1 of the Asbestos ATCM (not shown in this EIR) shows control options for the topics to be addressed in the asbestos dust mitigation plan for large construction projects. Many of these requirements would already be carried out by such projects to minimize nuisance dust complaints and protect water quality.

In addition, PCAPCD adopted a local dust control regulation in 2003 that goes beyond the state's measures by providing standards for the control of sources of fugitive dust, including dust from construction activities, and is not limited in applicability to areas where naturally occurring asbestos is found. In the identified areas of higher probability for the presence of naturally occurring asbestos, and where it or rock potentially containing it is known to be located, PCAPCD enforces the implementation of ARB's Asbestos ATCM.

### **9.2.3 ODORS**

PCAPCD has identified types of facilities that have been known to produce odors: wastewater treatment facilities, chemical manufacturing plants, painting/coating operations, feed lots/dairies, composting facilities, landfills, and transfer stations. Because offensive odors rarely cause any physical harm and no requirements for their control are included in federal or state air quality regulations, PCAPCD has no rules or standards related to odor emissions

other than Rule 205 (Nuisance). Any actions related to odors are based on citizen complaints to local governments and PCAPCD.

Two situations increase the potential for odor problems. The first occurs when a new odor source is located near existing sensitive receptors. The second occurs when new sensitive receptors are developed near existing sources of odors. In the first situation, PCAPCD recommends operational changes, add-on controls, process changes, or buffer zones where feasible to address odor complaints. In the second situation, the potential conflict is considered significant if the plan area is at least as close as any other site that has already experienced significant odor problems related to the odor source. For projects being developed near a source of odors where there is no nearby development that may have filed complaints, and for odor sources being developed near existing sensitive receptors, PCAPCD recommends that the determination of potential conflict be based on the distance and frequency at which odor complaints from the public have occurred in the vicinity of a similar facility.

PCAPCD Rule 205 (Nuisance) addresses odor exposure and prohibits discharging air contaminants or other material that cause injury, detriment, nuisance, or annoyance to the public; that endanger the public's comfort, repose, health, or safety; or that cause or have a natural tendency to cause injury or damage to business or property.

#### **9.2.4 GREENHOUSE GAS EMISSIONS**

The U.S. Supreme Court ruled on April 2, 2007, in *Massachusetts v. U.S. Environmental Protection Agency* that CO<sub>2</sub> is an air pollutant as defined under the CAA, and that EPA has the authority to regulate emissions of GHGs. However, there are no federal regulations or policies regarding GHG emissions applicable to the proposed project at the time of writing.

Various statewide and local initiatives to reduce the state's contribution to GHG emissions have raised awareness that, even though the various contributors to and consequences of global climate change are not yet fully understood, global climate change is under way, and there is a real potential for severe adverse environmental, social, and economic effects in the long term. Because every nation emits GHGs and therefore makes an incremental cumulative contribution to global climate change, cooperation on a global scale will be required to reduce the rate of GHG emissions to a level that can help to slow or stop the human-caused increase in average global temperatures and associated changes in climatic conditions.

#### **ASSEMBLY BILL 1493 (2002)**

In 2002, then-Governor Gray Davis signed AB 1493 (Chapter 200, Statutes of 2002) (amending Section 42823 of the Health and Safety Code and adding Section 43018.5 to the code). AB 1493 requires that ARB develop and adopt, by January 1, 2005, regulations that achieve "the maximum feasible reduction of greenhouse gases emitted by passenger vehicles and light-duty trucks and other vehicles determined by ARB to be vehicles whose primary use is noncommercial personal transportation in the state."

To meet the requirements of AB 1493, in 2004 ARB approved amendments to the California Code of Regulations adding GHG emissions standards to California's existing standards for motor vehicle emissions. Amendments to 13 CCR Sections 1900 and 1961 and adoption of Section 1961.1 (13 CCR Section 1961.1) require automobile manufacturers to meet fleet-average GHG emissions limits for all passenger cars, light-duty trucks within various weight criteria, and medium-duty passenger vehicle weight classes (i.e., any medium-duty vehicle with a gross vehicle weight rating less than 10,000 pounds [lb] that is designed primarily for the transportation of persons), beginning with the 2009 model year. Emissions limits are reduced further in each model year through 2016. For passenger cars and light-duty trucks with a loaded vehicle weight of 3,750 lb or less, the GHG emission limits for the 2016 model year are approximately 37% lower than the limits for the first year of the regulations, the 2009 model year. For light-duty trucks with loaded vehicle weight of 3,751 lb to gross vehicle weight of 8,500 lb, as

well as medium-duty passenger vehicles, GHG emissions are reduced approximately 24% between 2009 and 2016.

In December 2004, a group of car dealerships, automobile manufacturers, and trade groups representing automobile manufacturers filed suit against ARB to prevent enforcement of 13 CCR Sections 1900 and 1961 as amended by AB 1493 and 13 CCR 1961.1 (*Central Valley Chrysler-Jeep et al. v. Catherine E. Witherspoon, in Her Official Capacity as Executive Director of the California Air Resources Board, et al.* [456 F. Supp. 2d 1150, 1172 (E.D. Cal. 2006)]). The suit in the U.S. District Court for the Eastern District of California contended that California's implementation of regulations that, in effect, regulate vehicle fuel economy violates various federal laws, regulations, and policies.

In January 2007, the judge hearing the case accepted a request from the California Attorney General's office that the trial be postponed until a decision is reached by the U.S. Supreme Court on a separate case addressing GHGs. In the Supreme Court case, *Massachusetts, et al., v. Environmental Protection Agency, et al.*, the primary issue in question was whether the CAA provides authority for EPA to regulate CO<sub>2</sub> emissions. EPA contended that the CAA does not authorize regulation of CO<sub>2</sub> emissions, whereas Massachusetts and 10 other states, including California, sued EPA to begin regulating CO<sub>2</sub>. As mentioned above, the U.S. Supreme Court ruled on April 2, 2007, that GHGs are "air pollutants" as defined under the CAA and EPA is granted authority to regulate CO<sub>2</sub> (*Massachusetts v. U.S. Environmental Protection Agency* [2007] 549 U.S. 05-1120).

On December 12, 2007, the Court rejected the automakers' claim and ruled that if California receives appropriate authorization from EPA (the last remaining factor in enforcing the standard), these regulations would not be consistent with federal law. This authorization to implement more stringent standards in California was requested in the form of a CAA Section 209(b) waiver in 2005. Since that time, EPA failed to act in granting California authorization to implement the standards. Governor Arnold Schwarzenegger and Attorney General Edmund G. Brown Jr. filed suit against EPA for the delay. EPA denied California's request for the waiver to implement AB 1493 in late December 2007. The State of California has filed suit against EPA for its decision to deny the CAA waiver.

### **EXECUTIVE ORDER S-3-05 (2005)**

Executive Order S-3-05, which was signed by Governor Schwarzenegger in 2005, proclaims that California is vulnerable to the impacts of climate change. It declares that increased temperatures could reduce the Sierra Nevada's snowpack, exacerbate California's air quality problems, and potentially cause a rise in sea level. To combat those concerns, the executive order established targets for total GHG emissions. Specifically, emissions are to be reduced to the 2000 level by 2010, the 1990 level by 2020, and to 80% below the 1990 level by 2050.

The executive order directed the secretary of the California Environmental Protection Agency to coordinate a multiagency effort to reduce GHG emissions to the target levels. The secretary will also submit biannual reports to the governor and legislature describing: progress made toward reaching the emissions targets; impacts of global warming on California's resources; and mitigation and adaptation plans to combat these impacts. To comply with the Executive Order, the secretary of the California Environmental Protection Agency created the California Climate Action Team, made up of members of various state agencies and commissions. The California Climate Action Team released its first report in March 2006. The report proposed to achieve the targets by building on voluntary actions of California businesses and actions by local governments and communities, as well as through state incentive and regulatory programs.

### **ASSEMBLY BILL 32 (2006), CALIFORNIA CLIMATE SOLUTIONS ACT**

In September 2006, Governor Arnold Schwarzenegger signed AB 32 (Chapter 488, Statutes of 2006), the California Global Warming Solutions Act, which enacted Sections 38500–38599 of the Health and Safety Code.

AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and a cap on statewide GHG emissions. AB 32 requires that statewide GHG emissions be reduced to 1990 levels by 2020. This reduction will be accomplished through an enforceable statewide cap on GHG emissions that will be phased in starting in 2012. To effectively implement the cap, AB 32 directs ARB to develop and implement regulations to reduce statewide GHG emissions from stationary sources. AB 32 specifies that regulations adopted in response to AB 1493 should be used to address GHG emissions from vehicles. However, AB 32 also includes language stating that if the AB 1493 regulations cannot be implemented, then ARB should develop new regulations to control GHG emissions from vehicles under the authorization of AB 32.

AB 32 requires that ARB adopt a quantified cap on GHG emissions representing 1990 emissions levels and disclose how it arrives at the cap; institute a schedule to meet the emissions cap; and develop tracking, reporting, and enforcement mechanisms to ensure that the state achieves the reductions in GHG emissions necessary to meet the cap. AB 32 also includes guidance to institute emissions reductions in an economically efficient manner and conditions to ensure that businesses and consumers are not unfairly affected by the reductions.

## **SENATE BILL 97 (2007)**

Senate Bill (SB) 97, signed in August 2007 (Chapter 185, Statutes of 2007; Public Resources Code, Section 21083.05 and 21097), acknowledges that climate change is a prominent environmental issue that requires analysis under CEQA. This bill directs the Governor's Office of Planning and Research to prepare, develop, and transmit to the California Resources Agency by July 1, 2009, guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA. The California Resources Agency is required to certify and adopt those guidelines by January 1, 2010. This bill also removes, both retroactively and prospectively, as legitimate causes of action in litigation any claim of inadequate CEQA analysis of effects of GHG emissions associated with environmental review for projects funded by the Highway Safety, Traffic Reduction, Air Quality and Port Security Bond Act of 2006 (Proposition 1B) or the Disaster Preparedness and Flood Protection Bond Act of 2006 (Proposition 1E). This provision will be repealed by operation of law on January 1, 2010; at that time such projects, if any remain unapproved, will no longer enjoy protection against litigation claims based on failure to adequately address issues related to climate change. This bill would only protect a handful of public agencies from CEQA challenges on certain types of projects for a few years time.

There are no local laws, regulations, or policies pertaining to GHG emissions.

## **9.3 IMPACTS**

### **9.3.1 ANALYSIS METHODOLOGY**

Methodologies recommended by PCAPCD were used to assess short-term (construction-related) and long-term regional and local (operational) impacts on air quality; impacts from TACs and odors; and short-term emissions of criteria air pollutants (e.g., particulate matter) and ozone precursors (e.g., ROG and NO<sub>x</sub>) generated by project construction. Where quantification was required, emissions from project construction were modeled using the ARB-approved URBEMIS 2007 Version 9.2.4 computer program (Rimpo and Associates 2008) as recommended by PCAPCD. URBEMIS incorporates ARB's EMFAC2007 model for on-road vehicle emissions and the OFFROAD2007 model for off-road vehicle emissions. URBEMIS is designed to model construction emissions for land use development projects and allows for the input of project-specific information. Exact project-specific data (e.g., required types and numbers of construction equipment and maximum daily acreage disturbed) were not available at the time of this analysis. General information provided in the project description (see Chapter 3.0 of this EIR) and default URBEMIS settings were used to generate a reasonable worst-case estimate of project-generated emissions.

Regional emissions of criteria air pollutants and ozone precursors generated by area and mobile sources associated with the proposed project were also modeled using URBEMIS. URBEMIS allows land use selections

that include project location specifics and trip generation rates. URBEMIS accounts for mobile-source emissions associated with vehicle trip generation. Project-generated emissions were modeled based on general information provided in the project description and trip generation from the transportation analysis prepared for this project (see Chapter 3.0, “Project Description,” and Chapter 8.0, “Transportation and Circulation,” of this EIR).

Long-term (operational), local CO impacts were evaluated in accordance with PCAPCD guidance.

PCAPCD has not adopted a methodology for analyzing short-term construction-related emissions of TACs and/or the exposure thereof. Therefore, emissions of TACs associated with project construction were assessed in a qualitative manner.

Determinations of significance for construction-related and operational emissions were based on the comparison of project-generated emissions to applicable PCAPCD thresholds.

Other air quality impacts (e.g., odors) were assessed in accordance with methodologies recommended by ARB and/or PCAPCD.

Project-generated construction- and operation-related emissions of GHGs were calculated using URBEMIS.

### **9.3.2 THRESHOLDS OF SIGNIFICANCE**

Based on the Placer County CEQA checklist and the State CEQA Guidelines, the proposed project would result in a potentially significant impact on air quality if it would:

- ▶ conflict with or obstruct implementation of the applicable air quality plan,
- ▶ violate any air quality standard or contribute substantially to an existing or projected air quality violation,
- ▶ result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable NAAQS or CAAQS (including releasing emissions that exceed quantitative thresholds for ozone precursors),
- ▶ expose sensitive receptors to substantial pollutant concentrations, or
- ▶ create objectionable odors affecting a substantial number of people.

As stated in the State CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. Thus, the proposed project would result in a potentially significant impact on air quality if:

- ▶ short-term construction-related emissions of ROG, NO<sub>x</sub>, or PM<sub>10</sub> would exceed the PCAPCD-recommended mass emissions threshold of 82 pounds per day (lb/day);
- ▶ long-term, operational (regional) emissions of ROG, NO<sub>x</sub>, or PM<sub>10</sub> would exceed the PCAPCD-recommended mass emissions threshold of 82 lb/day;
- ▶ long-term, operational emissions of ROG and NO<sub>x</sub> would exceed the PCAPCD-recommended cumulative mass emissions threshold of 10 lb/day; or
- ▶ sensitive receptors would be exposed to a substantial incremental increase in TAC emissions (e.g., stationary- or mobile-source) that result in excess cancer risk greater than 10 in 1 million, or a Hazard Index greater than 1 for noncancer risk, for the maximally exposed individual.

No air district or other regulatory agency in California, including PCAPCD, has identified a significance threshold for GHG emissions generated by a proposed project, or a methodology for analyzing impacts related to GHG emissions or global climate change. By adopting AB 32 and SB 97, however, the State of California has established GHG reduction targets and has determined that GHG emissions as they relate to global climate change are a source of adverse environmental impacts in California that should be addressed under CEQA. Although AB 32 did not amend CEQA, the legislation does include language identifying the various environmental problems in California caused by global warming (Health and Safety Code, Section 38501[a].) SB 97, in contrast, did amend CEQA to require the Governor's Office of Planning and Research to prepare revisions to the State CEQA Guidelines addressing the mitigation of GHGs or their consequences. By only giving certain limited projects protection against CEQA claims based on the alleged failure to properly assess climate change impacts in the environmental documents used to approve them, the legislature allowed that the environmental review for other projects would have to address the issue of global warming when impacts are potentially significant (project or cumulative). The proper context for addressing the issue in an EIR is the discussion of cumulative impacts, because although the emissions of one single project will not cause or alter global climate change, GHG emissions from multiple projects throughout the world could result in a cumulative impact with respect to global climate change.

To meet GHG emissions targets of AB 32, California would need to generate in the future less GHG emissions than current levels. It is recognized, however, that for most projects no simple metric is available to determine whether a single project would substantially increase or decrease overall levels of GHG emissions or conflict with the goals of AB 32.

The text of AB 32 strongly suggests that, when ARB interprets and applies the definition of "greenhouse gas emission source," the regulations promulgated under the legislation will apply primarily, if not exclusively, to stationary sources of GHG emissions (see Section 38505[i] of the Health and Safety Code). Nevertheless, this mandate demonstrates California's commitment to reducing the rate of GHG emissions and the state's associated contribution to climate change, without intent to limit population or economic growth within the state. Thus, to achieve the goals of AB 32, which are tied to GHG emissions rates in specific benchmark years (i.e., 1990), California would have to achieve a lower rate of emissions per unit of population (per person) than it has now. Further, to accommodate future population and economic growth, the state would have to achieve an even lower rate of emissions per unit than was achieved in 1990. (The goal—to achieve 1990 quantities of GHG emissions by 2020—will need to be accomplished with 30 years of population and economic growth beyond 1990 in place.) Thus, future projects that would not encourage reductions in GHG emissions (or continue at "business as usual" emission rates) would conflict with the policy decisions contained in the spirit of AB 32, thus impeding California's ability to comply with the mandate. In addition, if a project would be affected by the reasonably foreseeable effects of climate change, the project should be designed to adapt to altered future conditions.

Although the text of AB 32 focuses on major stationary and area sources of GHG emissions, the primary objective of the legislation is to reduce California's contribution to global warming by reducing California's total annual production of GHG emissions. The impact that GHG emissions have on global climate change does not depend on whether they were generated by stationary, mobile, or area sources, or whether they were generated in one region or another. Thus, consistency with the state's requirements for GHG emissions reductions is the best metric for determining whether the proposed project would contribute to global warming. In the case of the proposed project, if the project does not conform with the state mandate to reduce GHG emissions to 1990 levels by the year 2020 and the associated increase in the amount of mass emissions is considered substantial, then the impact of the project would be cumulatively considerable (significant). Because the nature of global climate change impacts of GHG emissions are cumulative, this impact is discussed in Section 15.5, "Cumulative Impacts," in Chapter 15.0, "Other CEQA-Required Sections," of this EIR.

## IMPACT ANALYSIS

**IMPACT 9-1**      **Air Quality—Short-Term Emission of Criteria Air Pollutants and Precursors during Construction.**  
*Modeled short-term emissions of ozone precursors and fugitive dust from construction of trails and other project facilities would not exceed PCAPCD's significance threshold of 82 lb/day. Thus, emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> associated with project construction would not violate or contribute substantially to an existing or projected air quality violation, nor would they expose sensitive receptors to substantial concentrations of pollutants.*

**Significance**    *Less than Significant*

**Mitigation Proposed**    *None Warranted*

**Residual Significance**    *Less than Significant*

Construction-related emissions are described as short-term or temporary and have the potential to represent a significant impact with respect to air quality. Project construction activities would result in emissions of criteria air pollutants (PM<sub>10</sub> and PM<sub>2.5</sub>) and ozone precursors (ROG and NO<sub>x</sub>) from site preparation (e.g., excavation, grading, and clearing); exhaust from equipment, material transport vehicles, and worker commute vehicles; vehicle travel on unpaved roads; paving; application of architectural coatings; and other miscellaneous activities.

Emissions of fugitive PM dust (e.g., PM<sub>10</sub> and PM<sub>2.5</sub>) are associated primarily with ground disturbance activities during site preparation, such as grading, and vary as a function of soil silt content, soil moisture, wind speed, acreage of the disturbance area, VMT on- and off-site, and other parameters. Exhaust emissions from diesel equipment and worker commute trips also contribute to short-term increases in total PM emissions, but to a much lesser extent. Emissions of ozone precursors are associated primarily with exhaust emitted by off-road (e.g., gas and diesel) construction equipment. Worker commute trips and other construction-related activities (e.g., application of architectural coatings) also contribute to short-term increases in such emissions.

The proposed project would be constructed in phases over several years as funding allows. Each phase would allow an additional level of public access to the Park. Phase 1 of the construction activities is expected to occur over the next 5 years. Construction of trails and Park facilities within the Spears Ranch portion of the Park, construction of bridge crossings, expansion of the Didion Ranch parking area (including relocating the adjacent helistop), and paving and widening of the access road from Garden Bar Road to the Park would be the largest construction-related sources of emissions during Phase 1. Park facilities would include two permanent restroom facilities, 10 bunkhouses, groundwater wells, fire suppression facilities, equestrian facilities, picnic areas, benches and rest areas, landscaping, and other improvements. Construction of the bunkhouses and restroom facilities would be the largest contributors to air pollutant emissions; minor emissions are expected from other Park improvements. Typical bunkhouse and restroom facilities are around 448 square feet and 400 square feet, respectively, in area. It is likely that trail construction would occur at the same time as the construction of these facilities. The simultaneous occurrence of these activities would represent the worst-case scenario for daily air emissions.

Vegetation along the trail corridor would be cleared by hand before construction, but removal of such vegetation would be minimized to the extent possible. Vegetation removed would be chipped or lopped and scattered near the trails. Topical exposed areas prone to erosion would be stabilized with certified weed free straw in accordance with the Storm Water Pollution Prevention Plan. The trail tread would be excavated using a Sweco trail dozer, a mini excavator, and other machinery capable of conforming to the dimensional requirements of the trails.

Construction of the trail system and the associated recreational facilities is expected to generate a maximum of 400 delivery truck trips.

Emissions of criteria air pollutants and precursors associated with project construction were modeled in accordance with methodologies recommended by PCAPCD. For Phase 1 of construction, truck traffic is expected to be approximately 10–20% of the total number of truck trips (i.e., 40–80 truck trips). However, exact project-specific data for each construction phase (e.g., required types and numbers of construction equipment and maximum daily acreage disturbed) were not available at the time of this analysis. Project-generated emissions were modeled based on general information provided in the project description (see Chapter 3.0 of this EIR) and default URBEMIS settings and parameters attributable to the construction period and site location.

Table 9-3 summarizes the modeled emissions for the construction phases. Construction-related effects on air quality were determined by comparing these modeling results with applicable PCAPCD significance thresholds. Refer to Appendix D of this EIR for detailed modeling input parameters and results.

As shown in Table 9-3, construction-related activities associated with the worst-case day would result in project-generated daily unmitigated emissions of approximately 43 lb/day of ROG, 67 lb/day of NO<sub>x</sub>, and 48 lb/day of PM<sub>10</sub>.

<b>Table 9-3 Summary of Modeled Short-Term Daily Emissions of Criteria Air Pollutants and Precursors Associated with Project Construction (Unmitigated)</b>				
Phase	Emissions (lb/day)			
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> <sup>1</sup>
<b>Trail<sup>2</sup></b>				
Trail Construction	1.89	13.18	43.17	9.49
<b>Facilities Construction<sup>3</sup></b>				
Site Grading	3.35	28.06	2.62	1.55
Building Construction	1.46	10.78	0.69	0.63
Architectural Coating	34.72	0.03	0.00	0.00
<b>Road Improvements</b>				
Paving	5.85	25.77	1.81	1.64
Worst-Case Total Daily Emissions (Unmitigated) <sup>4</sup>	43	67	48	13
PCAPCD Significance Threshold	82	82	82	-
Notes: lb/day = pounds per day; NO <sub>x</sub> = oxides of nitrogen; PCAPCD = Placer County Air Pollution Control District; PM <sub>2.5</sub> = fine particulate matter; PM <sub>10</sub> = respirable particulate matter; ROG = reactive organic gases <sup>1</sup> PCAPCD has not adopted a significance threshold for PM <sub>2.5</sub> ; however, the emissions are included for disclosure purposes. <sup>2</sup> 14 miles of trail would be constructed. Emissions include on-road emissions resulting from truck trips. <sup>3</sup> Facilities construction phases are assumed to occur sequentially with no potential overlap between phases. <sup>4</sup> Worst-case daily emissions were estimated under the premise that trail construction, road improvements, and the facilities construction phase with the highest emissions for each pollutant could occur simultaneously. Note: Total daily emissions rounded to the nearest whole number. All emissions are for 2008. Refer to Appendix D for detailed assumptions and modeling output files. Source: Data modeled by EDAW in 2008				

Based on the modeling conducted, construction-related activities would result in ROG, NO<sub>x</sub>, and PM<sub>10</sub> emissions that would not exceed PCAPCD's significance threshold of 82 lb/day. Thus, project-generated construction-related emissions of criteria air pollutants and precursor emissions would not violate or contribute substantially to an existing or projected air quality violation, and/or expose sensitive receptors to substantial pollutant concentrations. As a result, this impact is considered less than significant.

**IMPACT 9-2**      **Air Quality—Long-Term, Regional Emissions of Criteria Air Pollutants and Ozone Precursors Associated with Project Operation.** *Operational activities associated with the proposed project would not result in emissions of ROG, NO<sub>x</sub>, or PM<sub>10</sub> exceeding PCAPCD's significance threshold of 82 lb/day. Emissions of ROG and NO<sub>x</sub> would also not exceed PCAPCD's cumulative threshold of 10 lb/day. Thus, emissions of criteria air pollutants and precursors associated with project operation would not violate or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations, or conflict with air quality planning effort.*

**Significance**      *Less than Significant*

**Mitigation Proposed**      *None Warranted*

**Residual Significance**      *Less than Significant*

Long-term operation of the proposed project (i.e., use and maintenance of the proposed trails and related recreational facilities) would not result in the use of any new stationary sources of emissions in the project area. Implementation of the proposed project may result in area-source emissions from trail landscape activities and use of heating fuels at the buildings. The trail system and recreational facilities would be designed to be as low maintenance as possible, and in most instances would not require use of mobilized or mechanical equipment. The use of the bunkhouses would be sporadic and would lead to minor emissions.

In addition, the proposed project would result in additional vehicle trips on local roadways because of an increase in visitors to the Park. Regional mobile-source emissions were modeled based on the trip generation data described in Chapter 8.0, "Transportation and Circulation." The project would generate as much as 255 one-way weekday and 460 one-way weekend daily trips during peak periods. Mobile-source emissions were modeled based on weekend trips because that would represent the worst case for daily emissions. Weekday daily emissions would be lower than the emissions caused by weekend traffic. It may be noted that peak usage periods for the Park would tend to coincide with times of higher air quality. Usage tends to drop during times of high heat and poor air quality.

Table 9-4 summarizes the modeled emissions of criteria air pollutants and precursors associated with project operation. Operational air quality impacts were determined by comparing these modeling results with applicable PCAPCD thresholds. Refer to Appendix D of this EIR for detailed modeling input parameters and results.

As shown in Table 9-4, operational activities would result in project-generated daily unmitigated emissions of approximately 4 lb/day of ROG, 7 lb/day of NO<sub>x</sub>, and 6 lb/day of PM<sub>10</sub>.

Based on the modeling conducted, operational activities would not result in project-generated emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> exceeding PCAPCD's applicable thresholds of 82 lb/day. Emissions of ROG and NO<sub>x</sub> would also not exceed PCAPCD's cumulative significance threshold of 10 lb/day. In addition, PCAPCD relies, to a certain degree, on land use designations contained in general plan documents applicable to its jurisdiction. PCAPCD refers to the contents of approved general plans to forecast, inventory, and allocate regional emissions from land use and development-related sources. These emissions budgets are used in statewide air quality attainment

planning efforts. Because the proposed project would be consistent with the land use designations contained in the General Plan, emissions associated with the proposed land uses would have been accounted for in regional air quality planning efforts.

<b>Table 9-4 Summary of Modeled Long-Term Emissions Associated with Project Operation</b>				
Source	Emissions (lb/day)			
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub> <sup>1</sup>
<b>Completion of Project Construction</b>				
Mobile Source	4.43	7.23	5.93	1.16
Total Unmitigated	4.43	7.23	5.93	1.16
PCAPCD Significance Threshold	82	82	82	–
Notes:				
lb/day = pounds per day; NO <sub>x</sub> = oxides of nitrogen; PCAPCD = Placer County Air Pollution Control District; PM <sub>2.5</sub> = fine particulate matter; PM <sub>10</sub> = respirable particulate matter; ROG = reactive organic gases				
<sup>1</sup> PCAPCD has not adopted a significance threshold for PM <sub>2.5</sub> ; however, the emissions are included for disclosure purposes.				
Refer to Appendix D for detailed assumptions and modeling output files.				
Source: Data modeled by EDAW in 2008				

In addition, long-term use and maintenance of the proposed trails and associated recreational facilities would not result in the operation of any new stationary sources of air emissions in the project area.

Thus, emissions of criteria air pollutants and precursors associated with project operation would not violate or contribute substantially to an existing or projected air quality violation, expose sensitive receptors to substantial pollutant concentrations and/or conflict with air quality planning effort. As a result, this impact would be less than significant.

**IMPACT 9-3**     **Air Quality—Exposure of Sensitive Receptors to Emissions of Toxic Air Contaminants.** *The proposed project would not expose sensitive receptors to substantial emissions of TACs during project construction because construction emissions would be temporary and would rapidly dissipate with distance from the source. However, construction workers and surrounding residents could be exposed to dust from asbestos rock and soils during project construction.*

**Significance**     *Potentially Significant*

**Mitigation Proposed**     *Mitigation Measure 9-1: Conduct On-Site Soil Testing and Prepare and Implement an Asbestos Dust Control Plan, If Needed*

**Residual Significance**     *Less than Significant*

The potential for exposure of sensitive receptors to emissions of TACs from on-site sources during project construction and exposure to emissions from operational sources are discussed separately below.

### **On-Site Emissions Associated with Project Construction**

Exhaust from off-road, heavy-duty diesel equipment used for site preparation (e.g., excavation, grading, and clearing), as well as paving, application of architectural coatings, and other miscellaneous project construction

activities would result in short-term emissions of diesel PM. Diesel PM was identified as a TAC by ARB in 1998. The potential cancer risk from the inhalation of diesel PM, as discussed below, outweighs the potential noncancer health impacts (ARB 2003). PCAPCD has not adopted a methodology for analyzing such impacts.

The dose to which receptors are exposed is the primary factor used to determine health risk (i.e., potential exposure to TAC to be compared to applicable standards). Dose is a function of the concentration of a substance or substances in the environment and the duration of exposure to the substance. Dose is positively correlated with time, meaning that a longer exposure period would result in a higher exposure level for the maximally exposed individual. Thus, the risks estimated for such an individual are higher if a fixed exposure occurs over a longer period of time. According to the Office of Environmental Health Hazard Assessment, health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 70-year exposure period; however, such assessments should be limited to the period and duration of activities associated with the proposed project (Salinas, pers. comm., 2004). The use of off-road heavy-duty diesel equipment would be temporary. For this reason, combined with the highly dispersive properties of diesel PM (Zhu et al. 2002) and further reductions in exhaust emissions, emissions of TACs associated with project construction would not expose sensitive receptors to substantial emissions of TACs.

Because the project area is located in an area that is moderately likely to contain naturally occurring asbestos, ground disturbance activities during construction could expose construction workers and surrounding residents to dust from rocks and soil containing naturally occurring asbestos. Some portions of the project area could contain serpentine or ultramafic rock that is common to foothill areas of the county. These types of rock contain thin veins of asbestos that can become airborne when disturbed by grading or mining. Overall, the amount of asbestos is relatively small and typically amounts to less than 1% of the total rock mass. Nevertheless, when material containing naturally occurring asbestos is disturbed, asbestos fibers may be released and become airborne, thereby creating a potential health hazard. Thus, this impact would be potentially significant.

### **Emissions from On-Site Stationary, Mobile, and Area Sources during Project Operation**

There are no major existing stationary sources of TACs within 2 miles of the project area. Vehicles on Garden Bar Road, Mears Drive, Mt. Pleasant Road, Mt. Vernon Road, and other roads in the vicinity are sources of diesel PM and other TACs associated with vehicle exhaust. Project implementation would not lead to the operation of any stationary sources of TACs. Mobile sources of TACs include land uses that involve the long-term use of heavy-duty diesel trucks. Implementation of the proposed project would not lead to the development of any facilities that would require the long-term use of heavy-duty diesel trucks (e.g., loading docks).

The project would have a potentially significant health hazard related to asbestos fibers. Implementation of Mitigation Measure 9-1 would reduce this impact to a less-than-significant level.

**IMPACT 9-4**      **Air Quality—Long-Term (Local) Mobile-Source Emissions of Carbon Monoxide during Project Operation.** *Long-term operational (local) mobile-source emissions of CO would not violate or contribute substantially to a violation of the CAAQS or NAAQS, nor would they expose sensitive receptors to substantial pollutant concentrations.*

**Significance**      *Less than Significant*

**Mitigation Proposed**      *None Warranted*

**Residual Significance**      *Less than Significant*

CO concentration is a direct function of motor vehicle activity (e.g., idling time and traffic flow conditions), particularly during peak commute hours, and of meteorological conditions. Under specific meteorological conditions (e.g., stable conditions that result in poor dispersion), CO concentrations may reach unhealthy levels with respect to local sensitive land uses such as residential areas, schools, and hospitals. As a result, PCAPCD recommends analysis of CO emissions at a local rather than a regional level.

An appropriate qualitative screening procedure is provided in the procedures and guidelines contained in *Transportation Project-Level Carbon Monoxide Protocol*, published by the University of California, Davis, Institute of Transportation Studies, to determine whether a project poses the potential for a CO hotspot (UCD ITS 1997). A CO hotspot is an area of localized CO pollution that is caused by severe vehicle congestion on major roadways, typically near intersections. According to the protocol, projects may worsen air quality if they would do any of the following:

- ▶ increase the percentage of vehicles in cold-start modes by 2% or more,
- ▶ significantly increase traffic volumes (by 5% or more) over existing volumes, or
- ▶ worsen traffic flow, defined for signalized intersections as increasing average delay at intersections operating at level of service (LOS) E or F or causing an intersection that would operate at LOS D or better without the project to operate at LOS E or F.

The project’s traffic analysis (see Chapter 8.0, “Transportation and Circulation”) indicates that all signalized intersections that were analyzed would operate at LOS E or LOS F under cumulative conditions without and with the project. Thus, long-term, local mobile-source emissions of CO associated with project operation would not violate or substantially contribute to a violation of the CAAQS or NAAQS, nor would they expose sensitive receptors to substantial pollutant concentrations. As a result, this impact is considered less than significant.

As noted previously, the project area is located in an area that is moderately likely to contain naturally occurring asbestos. Unlike during short-term construction activities, long-term operation of the project would not result in ground disturbance and associated potential for this material to become airborne. Thus, assuming average conditions, exposure of operational users of the proposed project to naturally occurring asbestos fibers would be minimal, and would not be expected to result in a health hazard. This impact would be less than significant.

**IMPACT 9-5**      **Air Quality—Exposure of Sensitive Receptors to Odors.** *Construction of the proposed trails and recreational facilities would result in diesel exhaust emissions from on-site construction equipment. However, these emissions would be intermittent and would dissipate rapidly with an increase in distance from the source. The proposed project would not be a major source of odors.*

**Significance**      *Less than Significant*

**Mitigation Proposed**      *None Warranted*

**Residual Significance**      *Less than Significant*

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the presence of sensitive receptor. Although offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress and often generating citizen complaints to local governments and regulatory agencies.

The proposed project would result in diesel exhaust emissions from on-site construction equipment during project construction. Such emissions would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance.

In addition, the proposed project would not include the long-term operation of any new sources of odor; therefore, the project would not create objectionable odors affecting a substantial number of people. This impact would be less than significant.

## **9.4 MITIGATION MEASURES**

**Mitigation Measure 9-1: Conduct On-Site Soil Testing and Prepare and Implement an Asbestos Dust Control Plan, If Needed.**

*Mitigation Measure 9-1 applies to Impact 9-3.*

Prior to the start of construction activities, the County shall test the on-site soils for the presence of asbestos. If asbestos is not present in on-site soils, no further measured would be required. If asbestos is determined to be present on-site, the County shall prepare and implement an asbestos dust control plan as described below.

The project shall comply with PCAPCD Rule 228 for fugitive dust control. In addition, the County shall prepare an asbestos dust control plan for approval by PCAPCD as required in Section 93105 of the California Health and Safety Code, "Asbestos Airborne Toxic Control Measure for Construction, Grading, Quarrying, and Surface Mining Operations." The asbestos dust control plan shall specify measures, such as periodic watering to reduce airborne dust and ceasing construction during high winds to ensure that no visible dust crosses the property line. The County shall submit the plan to the County Planning Department for review and PCAPCD for review and approval before construction of the first project phase. Approval of the plan must be received from PCAPCD before any asbestos-containing rock (serpentine) can be disturbed. Upon approval of the asbestos dust control plan by PCAPCD, the County shall ensure that construction contractors implement the terms of the plan throughout the construction period.

Implementation of Mitigation Measure 9-1 would reduce the potentially significant impact related to asbestos exposure to a less-than-significant level.