

## **3.3 AIR QUALITY**



This section of the Draft Environmental Impact Report (Draft EIR; DEIR) includes a summary of applicable regulations, a description of existing air quality conditions, and an analysis of potential air quality impacts associated with the proposed project. Mitigation measures are recommended, as necessary, to reduce significant air quality impacts. All technical analyses related to this section are contained in **Appendix 3.3-A**.

### 3.3.1 SETTING

#### CLIMATE, METEOROLOGY, AND AIR POLLUTION POTENTIAL

The project site is located in western Nevada County south of the Lake of the Pines community and in the Mountain Counties Air Basin (MCAB). The MCAB consists of nine counties or portions of counties stretching from Plumas County on the north to Mariposa County on the south. The Northern Sierra Air Quality Management District (NSAQMD) is the local agency for air quality planning with authority over air pollutant sources.

Nevada County exhibits large variations in terrain and consequently exhibits large variations in climate, both of which affect air quality. The western portions of the county slope relatively gradually with deep river canyons running from southwest to northeast toward the crest of the Sierra Nevada range. East of the divide, the slope of the Sierra is steeper, but river canyons are relatively shallow. The warmest areas in Nevada County are found at the lower elevations along the county's west side, while the coldest average temperatures are found at the highest elevations (NSAQMD 2005).

The prevailing wind direction over the county is westerly. However, the terrain of the area has a great influence on local winds, so that wide variability in wind direction can be expected. Afternoon winds are generally channeled up-canyon, while nighttime winds generally flow down-canyon. Winds are, in general, stronger in spring and summer and weaker in fall and winter. Periods of calm winds and clear skies in fall and winter often result in strong, ground-based inversions forming in mountain valleys. These layers of very stable air restrict the dispersal of pollutants, trapping these pollutants near the ground, representing the worst conditions for local air pollution occurring in the county (NSAQMD 2005).

Regional airflow patterns have an effect on air quality patterns by directing pollutants downwind of sources. Localized meteorological conditions, such as light winds and shallow vertical mixing, and topographical features, such as surrounding mountain ranges, create areas of high pollutant concentrations by hindering dispersal. An inversion layer is produced when a layer of warm air traps cooler air close to the ground. Such temperature inversions hamper dispersion by stratifying contaminated air near the ground.

#### AMBIENT AIR QUALITY STANDARDS

Pollutants subject to federal and state ambient standards are referred to as "criteria" pollutants because the U.S. Environmental Protection Agency (USEPA) publishes criteria documents to justify the choice of standards. These standards define the maximum amount of an air pollutant that can be present in ambient air without harming the public's health. An ambient air quality standard is generally specified as a concentration averaged over a specific time period, such as 1 hour, 8 hours, 24 hours, or one year. The different averaging times and concentrations are meant to protect against different exposure effects. The USEPA has established two types of ambient standards: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects. The State of California

### 3.3 AIR QUALITY

has also adopted ambient air quality standards. **Table 3.3-1** summarizes federal and state ambient air quality standards.

**TABLE 3.3-1  
SUMMARY OF AMBIENT AIR QUALITY STANDARDS**

Pollutant	Averaging Time	California Standards	National Standards	
			Primary <sup>1</sup>	Secondary <sup>2</sup>
Ozone (O <sub>3</sub> )	1-hour	0.09 ppm	–	Same as primary
	8-hour	0.070 ppm	0.075 ppm	
Particulate Matter (PM <sub>10</sub> )	AAM	20 µg/m <sup>3</sup>	–	
	24-hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	
Fine Particulate Matter (PM <sub>2.5</sub> )	AAM	12 µg/m <sup>3</sup>	15 µg/m <sup>3</sup>	
	24-hour	No Separate State Standard	35 µg/m <sup>3</sup>	
Carbon Monoxide (CO)	1-hour	20 ppm	35 ppm	None
	8-hour	9 ppm	9 ppm	
	8-hour (Lake Tahoe)	6 ppm	–	
Nitrogen Dioxide (NO <sub>2</sub> )	AAM	0.030 ppm	0.053 ppm	Same as primary
	1-hour	0.18 ppm	0.1 ppm	
Sulfur Dioxide (SO <sub>2</sub> )	24-hour	0.04 ppm	–	–
	3-hour	–	–	0.5 ppm
	1-hour	0.25 ppm	0.075 ppm	–
Lead	30-day average	1.5 µg/m <sup>3</sup>	–	–
	Calendar quarter	–	1.5 µg/m <sup>3</sup>	Same as primary
	Rolling 3-month average	–	0.15 µg/m <sup>3</sup>	Same as primary
Sulfates	24-hour	25 µg/m <sup>3</sup>	No federal standards	
Hydrogen Sulfide	1-hour	0.03 ppm		
Vinyl Chloride	24-hour	0.01 ppm		
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) due to particles when the relative humidity is less than 70%.		

Notes:

<sup>1</sup> Levels necessary to protect the public health

<sup>2</sup> Levels necessary to protect the public welfare from known or anticipated adverse effects

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

Source: CARB 2010a

## CURRENT AMBIENT AIR QUALITY

The primary criteria air pollutants of concern in the project area include ozone (O<sub>3</sub>) and coarse particulate matter (PM<sub>10</sub>). Ambient concentrations of carbon monoxide (CO) are typically low, though localized concentrations, particularly near congested roadway intersections, are a potential local concern.

In Nevada County, ambient air quality is currently monitored at stations located in the City of Grass Valley, in the Town of Truckee, and at one seasonal location in Nevada County known as White Cloud Mountain. The closest monitoring site to the proposed project is the Grass Valley-Litton Building air quality monitoring station, which monitors ambient concentrations of O<sub>3</sub> and both coarse and fine particulate matter. **Table 3.3-2** summarizes the last three years of published ambient air quality data obtained from this monitoring station.

**TABLE 3.3-2  
SUMMARY OF ANNUAL AMBIENT AIR QUALITY DATA**

Pollutant Standards	2007	2008	2009
<b>Grass Valley-Litton Building Monitoring Site</b>			
<b>Ozone (number of days standard exceeded)</b>			
State 1-hour standard	5	8	3
Federal 8-hour standard	36	24	17
State 8-hour standard	55	42	38
<b>Particulate Matter (number of days standard exceeded)</b>			
State 24-hour standard (PM <sub>10</sub> )	NA	NA	NA
Federal 24-hour standard (PM <sub>10</sub> )	*	*	*
Federal 24-hour standard (PM <sub>2.5</sub> )	0	26.3	0

*Note: Ambient ozone and PM concentrations were obtained from the Grass Valley-Litton Building monitoring station. 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. The number of days above the standard is not necessarily the number of violations of the standard for the year.*

*\* = There is insufficient (or no) data available to determine the value.*

*N/A – indicates that certain pollutant is not measured at monitoring site.*

*Source: CARB 2010b*

## AMBIENT AIR QUALITY ATTAINMENT STATUS

**Table 3.3-3** shows the federal and state attainment status for Nevada County. The region is nonattainment for federal ozone standards and nonattainment for state ozone and PM<sub>10</sub> standards (CARB 2010c).

Areas with air quality that exceed adopted air quality standards are designated as nonattainment areas for the relevant air pollutants. Areas that comply with air quality standards are designated as attainment areas for the relevant air pollutants. State Implementation Plans (SIPs) must be prepared by states for areas designated as federal nonattainment areas to demonstrate how the area will come into attainment of the exceeded federal ambient air quality standard.

As detailed in the Regulatory Framework discussion below, both the California Air Resources Board (CARB) and the USEPA have established air pollution standards in an effort to protect

### 3.3 AIR QUALITY

human health and welfare. Geographic areas are designated attainment if these standards are met and nonattainment if they are not met.

**TABLE 3.3-3  
FEDERAL AND STATE AMBIENT AIR QUALITY ATTAINMENT STATUS FOR NEVADA COUNTY**

Pollutant	Federal	State
1-hour Ozone (O <sub>3</sub> )	–	Nonattainment
8-hour Ozone (O <sub>3</sub> )	Nonattainment	Nonattainment
Coarse Particulate Matter (PM <sub>10</sub> )	Unclassified	Nonattainment
Fine Particulate Matter (PM <sub>2.5</sub> )	Unclassified/Attainment	Unclassified
Carbon Monoxide (CO)	Unclassified/Attainment	Unclassified
Nitrogen Dioxide (NO <sub>2</sub> )	Unclassified/Attainment	Attainment
Sulfur Dioxide (SO <sub>2</sub> )	Unclassified	Attainment
Hydrogen Sulfide (H <sub>2</sub> S)	–	Unclassified

Source: CARB 2010c

#### AIR POLLUTANTS OF CONCERN AND HEALTH EFFECTS

One of the most important reasons for air quality standards is the protection of those members of the population who are most sensitive to the adverse health effects of air pollution, termed “sensitive receptors.” The term “sensitive receptors” refers to specific population groups, as well as the land uses where individuals would reside for long periods. Commonly identified sensitive population groups are children, the elderly, the acutely ill, and the chronically ill. Sensitive receptors are facilities that house or attract children, the elderly, people with illnesses, or others who are especially sensitive to the effects of air pollutants. Hospitals, schools, residential dwellings, and convalescent-care facilities are examples of sensitive receptors (CARB 2005). Select criteria air pollutants, emission sources, and associated health and welfare effects are summarized in **Table 3.3-4**.

**TABLE 3.3-4  
SUMMARY OF SELECT CRITERIA AIR POLLUTANTS, COMMON SOURCES, AND EFFECTS**

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Ozone (O <sub>3</sub> ), a colorless or bluish gas.	Formed by a chemical reaction between reactive organic gases (ROG) and nitrous oxides (NO <sub>x</sub> ) in the presence of sunlight. Motor vehicle exhaust, industrial emissions, gasoline storage and transport, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield. Damages rubber, some textiles and dyes.
Particulate Matter (PM), airborne solid particle and liquid particles. Grouped into two categories: PM <sub>10</sub> and PM <sub>2.5</sub> .	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Carbon Monoxide (CO), an odorless, colorless gas.	Formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, affecting the cardiovascular and nervous systems. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO <sub>2</sub> ), a reddish-brown gas.	Fuel combustion in motor vehicles and industrial sources. Motor vehicles; electric utilities, and other sources that burn fuel.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to global warming, and nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Sulfur Dioxide (SO <sub>2</sub> ), a colorless, nonflammable gas.	Formed when fuel containing sulfur, such as coal and oil, is burned; when gasoline is extracted from oil; or when metal is extracted from ore. Examples are petroleum refineries, cement manufacturing, metal processing facilities, locomotives, large ships, and fuel combustion in diesel engines.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, sulfur dioxide converts to sulfuric acid which can damage marble, iron and steel; damage crops and natural vegetation. Impairs visibility. Precursor to acid rain.
Lead, a metallic element.	Metal refineries, smelters, battery manufacturers, iron and steel producers, use of leaded fuels by racing and aircraft industries.	Anemia, high blood pressure, brain and kidney damage, neurological disorders, cancer, lowered IQ. Affects animals, plants, and aquatic ecosystems.

Source: CARB 2010d

With regard to human health, the air pollutants of primary concern in Nevada County include ozone and coarse particulate matter, as previously mentioned. The standards for carbon monoxide, nitrogen dioxide, sulfur dioxide, hydrogen sulfide, and lead are either unclassified or are being met within the region.

Ozone

O<sub>3</sub> is the most prevalent of a class of photochemical oxidants formed in the urban atmosphere. The creation of ozone is a result of complex chemical reactions between reactive organic gases and nitrogen oxides in the presence of sunlight. Unlike other pollutants, ozone is not released directly into the atmosphere from any sources. The major sources of nitrogen oxides and reactive hydrocarbons, known as ozone precursors (i.e., ROG and NO<sub>x</sub>), are combustion sources such as factories and automobiles, and evaporation of solvents and fuels. The health effects of ozone are eye irritation and damage to lung tissues. Ozone also damages some materials such as rubber, and may damage plants, crops, and marine life. The ozone problem in the MCAB is further aggravated by the transport of emissions from the metropolitan Sacramento area. Ozone is a seasonal problem, typically occurring during the months from May through October, when there is plenty of sunlight. Within the MCAB, the primary source of ozone precursors is motor vehicles.

Particulate Matter

Particulate matter consists of solid and liquid particles of dust, soot, aerosols, and other matter, which are small enough to remain suspended in the air for a long period of time. Particulate matter can be divided into several size fractions. Coarse particles (PM<sub>10</sub>) are between 2.5 and 10 microns in diameter and arise primarily from natural processes, such as wind-blown dust or soil. Fine particles (PM<sub>2.5</sub>) are less than 2.5 microns in diameter and are produced mostly from combustion or burning activities. Fuel burned in cars and trucks, power plants, factories, fireplaces, and wood stoves produces fine particles. The level of PM<sub>2.5</sub> in the air is a public health

### 3.3 AIR QUALITY

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concern because it can bypass the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. The health effects vary depending on a variety of factors, including the type and size of particles. Research has demonstrated a correlation between high PM concentrations and increased mortality rates. Elevated PM concentrations can also aggravate chronic respiratory illnesses such as bronchitis and asthma.

A portion of the particulate matter in the air is due to natural sources such as wind-blown dust and pollen, which are associated with the aggravation of respiratory conditions. Man-made sources include combustion, automobiles, field burning, factories, and road dust. A portion of the particulate matter in the atmosphere is also a result of photochemical processes. The effects of high concentrations on humans include aggravation of chronic disease and heart/lung disease symptoms. Non-health effects include reduced visibility and soiling of surfaces.

Primary sources of PM<sub>10</sub> emissions in the MCAB are road traffic, construction, open burning, and wildfires. The amount of particulate matter and PM<sub>10</sub> generated is dependent on the soil type and the soil moisture content. Traffic also generates particulate matter emissions through entrainment of dust and dirt particles that settle onto roadways and parking lots. Burning of wood in residential woodstoves and fireplaces and open agricultural burning are other sources of PM<sub>10</sub>. As stated above, sources of PM<sub>2.5</sub> include fuel burning automobiles, power plants, factories, fireplaces, and wood stoves.

#### **Toxic Air Contaminants**

Toxic air contaminants (TACs) are not considered criteria pollutants in that TACs are not addressed through the setting of federal or state ambient air quality standards. Instead, the USEPA and CARB regulate hazardous air pollutants (HAPs) and TACs, respectively, through statutes and regulations that generally require the use of the maximum or best available control technology to limit emissions. In conjunction with NSAQMD rules, they establish the regulatory framework for TACs. At the national level, the USEPA has established National Emission Standards for HAPs (NESHAPs), as required by the federal Clean Air Act Amendments. These are technology-based source-specific regulations that limit allowable emissions of HAPs.

At the state level, CARB has authority for the regulation of emissions from motor vehicles, fuels, and consumer products. In 1998, CARB added diesel-exhaust particulate matter (DPM) to the list of TACs. DPM is the primary toxic air contaminant of concern for mobile sources. Of all controlled TACs, emissions of DPM are estimated to be responsible for about 70 percent of the total ambient TAC risk. CARB has made the reduction of the public's exposure to DPM one of its highest priorities, with an aggressive plan to require cleaner diesel fuel and cleaner diesel engines and vehicles.

Local air districts have authority over stationary or industrial sources. All projects that require air quality permits from the NSAQMD are evaluated for TAC emissions. The NSAQMD limits emissions and public exposure to TACs through a number of programs. The NSAQMD prioritizes TAC-emitting stationary sources, based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors. The NSAQMD also requires a comprehensive health risk assessment for facilities that are classified in the significant-risk category, pursuant to Assembly Bill 2588.

#### Land Use Compatibility with TAC Emission Sources

The location of a development project is a major factor in determining whether it will result in localized air quality impacts. The potential for adverse air quality impacts increases as the distance between the source of emissions and members of the public decreases. While impacts

on all members of the population should be considered, impacts on sensitive receptors are of particular concern.

In 2005, CARB released an informational guide entitled, "Air Quality and Land Use Handbook: A Community Health Perspective." The purpose of this guide is to provide information to aid local jurisdictions in addressing issues and concerns related to the siting of sensitive land uses near major sources of air pollution. The handbook includes recommended separation distances for various land uses, which are summarized in **Table 3.3-5**. These recommendations were based on analyses that suggested that health risks associated with mobile sources, particularly DPM, increased within 300 feet of a major freeway, and that a 70 percent reduction in ambient particulate levels occurs at 500 feet from the source (CARB 2005).

Within urbanized areas, the CARB handbook currently recommends that new sensitive land uses not be located within 500 feet of a freeway, urban roadways with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. However, these recommendations are not site-specific and should not be interpreted as defined "buffer zones." The recommendations of the handbook are advisory and need to be balanced with other state and local policies (CARB 2005). The nearest major roadway in relation to the project site is State Route (SR) 49, which is located west of the project site. Based on estimates obtained from the California Department of Transportation, the adjacent segments of SR 49 currently average approximately 21,500 vehicles per day (Caltrans 2010).

**TABLE 3.3-5  
RECOMMENDATIONS ON SITING NEW SENSITIVE LAND USES  
NEAR AIR POLLUTANT SOURCES**

Source Category	Advisory Recommendations
Freeways and High-Traffic Roads	Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day.
Distribution Centers	Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week).
	Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points.
Rail Yards	Avoid siting new sensitive land uses within 1,000 feet of a major service and maintenance rail yard.
	Within one mile of a rail yard, consider possible siting limitations and mitigation approaches.
Ports	Avoid siting of new sensitive land uses immediately downwind of ports in the most heavily impacted zones. Consult local air districts or CARB on the status of pending analyses of health risks.
Refineries	Avoid siting new sensitive land uses immediately downwind of petroleum refineries. Consult with local air districts and other local agencies to determine an appropriate separation.
Chrome Platers	Avoid siting new sensitive land uses within 1,000 feet of a chrome plater.
Dry Cleaners Using Perchloroethylene	Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district.
	Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations.
Gasoline Dispensing Facilities	Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater). A 50-foot separation is recommended for typical gas-dispensing facilities.

*Note: Recommendations are advisory, are not site-specific, and may not fully account for future reductions in emissions, including those resulting from compliance with existing/future regulatory requirements, such as reductions in diesel-exhaust emissions anticipated to occur with continued implementation of CARB's Diesel Risk Reduction Plan.*

Source: CARB 2005

### 3.3 AIR QUALITY

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#### California Diesel-Risk Reduction Plan

In September 2000, CARB adopted the Diesel Risk Reduction Plan (DRRP), which recommends many control measures to reduce the risks associated with DPM and achieve a goal of 75 percent DPM reduction by 2010 and 85 percent by 2020. The DRRP incorporates measures to reduce emissions from diesel-fueled vehicles and stationary diesel-fueled engines. Ongoing efforts by CARB to reduce diesel-exhaust emissions from these sources include the development of specific statewide regulations, which are designed to further reduce DPM emissions. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce DPM emissions.

Since the initial adoption of the DRRP in September of 2000, CARB has adopted numerous rules related to the reduction of DPM from mobile sources, as well as the use of cleaner-burning fuels. Transportation sources addressed by these rules include public transit buses, school buses, on-road heavy-duty trucks, and off-road heavy-duty equipment. Some of the more notable rules and programs recently adopted by CARB are discussed in more detail below.

#### Standards for New Off-Road Diesel Engines

CARB has worked closely with the USEPA on developing new PM and NO<sub>x</sub> standards for engines used in off-road equipment such as backhoes, graders, and farm equipment. The USEPA has proposed new standards that would reduce the emission from off-road engines to similar levels to the on-road engines discussed below by 2012. These standards will reduce DPM emissions by over 90 percent from new off-road engines currently sold in California.

#### Standards for New On-Road Diesel Engines

In 2001, CARB adopted new particulate matter (PM) and NO<sub>x</sub> emission standards to clean up large diesel engines that power big-rig trucks, trash trucks, delivery vans, and other large vehicles. The new standard for PM took effect in 2007 and reduces emissions to 0.01 gram of PM per brake horsepower-hour (g/bhp-hr.) This is a 90 percent reduction from the pre-2007 PM standard. New engines will meet the 0.01 g/bhp-hr PM standard with the aid of diesel particulate filters that trap the particulate matter before exhaust leaves the vehicle.

#### **Odors**

Although offensive odors rarely cause physical harm, they can be very unpleasant, leading to considerable stress among the public and often generating citizen complaints to local governments and agencies. Some facilities are commonly known to produce odors, including wastewater treatment facilities, chemical manufacturing, painting/coating operations, feedlots/dairies, composting facilities, landfills, and transfer stations. Because offensive odors rarely cause physical harm and no requirements for their control are included in state or federal air quality regulations. Any actions related to odors are based on citizen complaints to local governments and the NSAQMD. No major sources of odors were identified in the project area.

### **3.3.2 REGULATORY FRAMEWORK**

Air quality in the project area is regulated by several jurisdictions including the USEPA, CARB, NSAQMD, and the County of Nevada. Each of these jurisdictions develops rules, regulations, and policies to attain the goals or directives imposed upon them through legislation. Although the USEPA regulations may not be superseded, both state and local regulations may be more stringent.

**FEDERAL****USEPA and the Federal Clean Air Act**

At the federal level, the USEPA has been charged with implementing national air quality programs. The USEPA's air quality mandates are drawn primarily from the federal Clean Air Act (CAA), which was signed into law in 1970. Congress substantially amended the CAA in 1977 and again in 1990.

The Clean Air Act required the USEPA to establish National Ambient Air Quality Standards (NAAQS) and also set deadlines for their attainment. Two types of NAAQS have been established: primary standards, which protect public health, and secondary standards, which protect public welfare from non-health-related adverse effects. 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 added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. The USEPA has responsibility to review all state SIPs to determine conformance to the mandates of the Clean Air Act Amendments, and the amendments thereof, and determine whether implementation will achieve air quality goals. If USEPA determines a SIP to be inadequate, a Federal Implementation Plan may be prepared for the nonattainment area that imposes additional control measures. Failure to submit an approvable SIP or to implement the plan within the mandated time frame may result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin.

**STATE****CARB and the California Clean Air Act**

CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for implementing the California Clean Air Act of 1988. The California Clean Air Act (CCAA) requires that all air districts in the state endeavor to achieve and maintain California Ambient Air Quality Standards (CAAQS) for ozone, carbon monoxide, sulfur dioxide, and nitrogen dioxide by the earliest practical date. Plans for attaining CAAQS were to be submitted to CARB by June 30, 1991. The CCAA specifies that districts focus particular attention on reducing the emissions from transportation and area-wide emission sources, and the act provides districts with authority to regulate indirect sources. Each district plan is required to either (1) achieve a 5 percent annual reduction, averaged over consecutive three-year periods, in district-wide emissions of each nonattainment pollutant or its precursors, or (2) provide for implementation of all feasible measures to reduce emissions. Any planning effort for air quality attainment would thus need to consider both state and federal planning requirements.

Other CARB duties include monitoring air quality (in conjunction with air monitoring networks maintained by air pollution control districts and air quality management districts), establishing CAAQS (which in many cases are more stringent than the NAAQS), and setting emissions standards for new motor vehicles. The emission standards established for motor vehicles differ depending on various factors including the model year and the type of vehicle, fuel, and engine used.

### 3.3 AIR QUALITY

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#### **Assembly Bills 1807 and 2588 – Air Toxics**

Within California, toxic air contaminants (TACs) are regulated primarily through AB 1807 (Tanner Air Toxics Act; codified at Health and Safety Code Sections 39650, 39655, 39656–39659, 39660–39664, 39665–39669, 39670–39671, 39674–39675) and AB 2588 (Air Toxics Hot Spots Information and Assessment Act of 1987; codified at Health and Safety Code Sections 44300–44309). The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB designates a substance as a toxic air contaminant. Existing sources of TACs that are subject to the Air Toxics Hot Spots Information and Assessment Act are required to: (1) prepare a toxic emissions inventory; (2) prepare a risk assessment if emissions are significant; (3) notify the public of significant risk levels; and (4) prepare and implement risk reduction measures.

#### **Senate Bill 656 – Reducing Particulate Matter in California**

In 2003, the Legislature passed Senate Bill (SB) 656 (codified at Health and Safety Code Section 39614) to reduce public exposure to PM<sub>10</sub> and PM<sub>2.5</sub>. The legislation requires CARB, in consultation with local air pollution control and air quality management districts, to adopt a list of the most readily available, feasible, and cost-effective control measures that could be implemented by air districts to reduce PM<sub>10</sub> and PM<sub>2.5</sub>. The legislation establishes a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for PM<sub>2.5</sub> and provides new direction on PM reductions in those areas not subject to federal requirements for particulate matter. Source categories addressed by SB 656 include measures to address residential wood combustion and outdoor green waste burning; fugitive dust sources such as paved and unpaved roads and construction; combustion sources such as boilers, heaters, and charbroiling; solvents and coatings; and product manufacturing.

LOCAL

#### **Nevada County General Plan**

The Nevada County General Plan serves as the overall guiding policy document for the unincorporated areas of Nevada County. A summary of the project's consistency with applicable General Plan air quality-related policies is contained in **Appendix 3.0-A**. While this Draft EIR analyzes the project's consistency with the General Plan pursuant to California Environmental Quality Act (CEQA) Section 15125(d), the Nevada County Board of Supervisors makes the ultimate determination of consistency with the General Plan.

#### **Northern Sierra Air Quality Management District**

The Northern Sierra Air Quality Management District (NSAQMD) is the agency primarily responsible for ensuring that federal and state ambient air quality standards are not exceeded and that air quality conditions are maintained. Responsibilities of NSAQMD include, but are not limited to, preparing plans for the attainment of ambient air quality standards, adopting and enforcing rules and regulations concerning sources of air pollution, issuing permits for stationary sources of air pollution, inspecting stationary sources of air pollution and responding to citizen complaints, monitoring ambient air quality and meteorological conditions, and implementing programs and regulations required by the federal CAA and the CCAA. NSAQMD rules and regulations applicable to the proposed project include, but are not necessarily limited to, the following:

*Rule 205, Nuisance.* This rule prohibits the discharge of air contaminants or other material from any source which cause injury, detriment, nuisance, or annoyance to any considerable number of persons, or to the public, or which endangers 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.

*Rule 226, Dust Control.* This rule requires the submittal of a Dust Control Plan to the NSAQMD for approval prior to any surface disturbance, including clearing of vegetation.

*Rule 302, Prohibited Open Burning.* In accordance with this rule, no person (except as otherwise authorized in Sections 41801–41805.6, 41807–41809, and 41811–41815 of the Health and Safety Code) shall use open outdoor fires for the purpose of disposal, processing, or burning of any flammable or combustible material as defined in Section 39020 of the Health and Safety Code; or unless issued a permit by NSAQMD and in accordance with other applicable NSAQMD rules and regulations, including, but not limited to, Rule 308, Land Development Clearing, and Rule 312, Burning Permits.

*Rule 308, Land Development Clearing.* The NSAQMD finds it more economically desirable to dispose of wood waste from trees, vines, and bushes on property being developed for commercial or residential purposes by burning instead of burial at a sanitary landfill. In such instances, disposal by burning shall comply with NSAQMD rules, including, but not limited to, Rule 312, Burning Permit Requirements; Rule 313, Burn Days; Rule 314, Minimum Drying Times; Rule 315, Burning Management; and Rule 316, Burn Plan Preparation.

*Rule 501, Permit Required.* Before any source may be operated, a Permit to Operate shall be obtained from the Air Pollution Control Officer. No Permit to Operate shall be granted either by the Air Pollution Control Officer or the Hearing Board for any source constructed or modified without authorization or not in compliance with other NSAQMD rules and regulations, including those specified in NSAQMD Regulation IV.

### 3.3.3 IMPACTS AND MITIGATION MEASURES

#### STANDARDS OF SIGNIFICANCE

The impact analysis provided below is based on the application of the following State CEQA Guidelines Appendix G thresholds of significance, which indicate that a project would have a significant impact if it would:

- 1) Conflict with or obstruct implementation of any applicable air quality plan.
- 2) Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
- 3) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors).
- 4) Expose sensitive receptors to substantial pollutant concentrations.
- 5) Create objectionable odors affecting a substantial number of people.

### 3.3 AIR QUALITY

NSAQMD thresholds have also been used to determine air quality impacts in this analysis. To assist local jurisdictions in the evaluation of air quality impacts, the NSAQMD has published a guidance document for the preparation of the air quality portions of environmental documents that includes thresholds of significance to be used in evaluating land use proposals. Thresholds of significance are based on a source's projected impacts and are a basis from which to apply mitigation measures (NSAQMD 2009). The NSAQMD has developed a tiered approach to significance levels: a project with emissions meeting Level A thresholds will require the most basic mitigations; projects with projected emissions in the Level B range will require more extensive mitigations; and those projects which exceed Level C thresholds will require the most extensive mitigations. The NSAQMD-recommended thresholds are identified in **Table 3.3-6** below.

**TABLE 3.3-6  
NSAQMD-RECOMMENDED SIGNIFICANCE THRESHOLDS**

Significance Level	Project-Generated Emissions (lbs/day)		
	NO <sub>x</sub>	ROG	PM <sub>10</sub>
Level A	< 24	< 24	< 79
Level B	25–136	25–136	80–136
Level C	≥ 137	≥ 137	≥ 137

Source: NSAQMD 2009

According to the NSAQMD (NSAQMD 2009), these thresholds are recommended for use by lead agencies when preparing initial studies. If, during the preparation of the initial study, the lead agency finds that any of the following thresholds may be exceeded and cannot be mitigated to Level B, then a determination of significant air quality impact must be made and an EIR is required.

For evaluation of project-related air quality impacts and considering that this EIR has been prepared to analyze the project, implementation of the proposed project would be considered significant if the project would:

- Exceed NSAQMD-recommended significance thresholds, as identified in **Table 3.3-6**. In accordance with NSAQMD-recommended thresholds of significance, project-generated short- or long-term increases in emissions in excess of Level C thresholds for NO<sub>x</sub>, reactive organic gases (ROG), or PM<sub>10</sub> would be considered significant. The NSAQMD has not adopted thresholds of significance for PM<sub>2.5</sub>. However, because PM<sub>2.5</sub> is a subset of PM<sub>10</sub>, significant increases in PM<sub>10</sub> would be considered to also result in significant increases in PM<sub>2.5</sub>.

It is important to note that in cases when predicted emissions are projected to be below the Level C thresholds but exceeding the Level A thresholds (thereby placing project-related air quality impacts at Level B), the project would be considered potentially significant, subject to the recommended measures of NSAQMD's *Mitigation for Use During Design and Construction Phases for Classifications as Level B Threshold* (NSAQMD 2009). Implementation of the appropriate NSAQMD mitigation from this collection of measures would reduce Level B air quality impacts to a less than significant level.

- Exceed the NSAQMD health risk public notification thresholds set at 10 excess cancer cases in a million for cancer risk, or a Hazard Index of greater than one (1.0) for non-cancer risk.

- Contribute to localized concentrations of air pollutants at nearby receptors that would exceed applicable ambient air quality standards.
- Result in the frequent exposure of sensitive land uses to odorous emissions.

## METHODOLOGY

### Short-Term Impacts

Short-term construction emissions were estimated using the URBEMIS2007 (Version 9.2.4) computer program, as recommended by the NSAQMD. The URBEMIS2007 program is designed to model construction emissions for land use development projects and allows for the input of project-specific information. Modeling was based primarily on the default settings contained within the computer program for Nevada County and included emissions from off-highway mobile equipment, travel on unpaved surfaces, soil disturbance, and evaporative emissions from asphalt paving and architectural coating applications, as well as on-highway worker commute trips. Initial site preparation activities during phase one of project construction include export of 6,000 cubic yards of soil and 11 round trips per day (hauling) with a round-trip distance of 20 miles. Modeling was conducted for each of the proposed project phases assuming an overall 6-month construction period for each phase. It is anticipated that phases one and two would begin in the spring of 2012. Phases three through ten would continue buildout of the project to the outer areas surrounding the Village Center, including additional project amenities, cottage-style homes for independent living, duplexes, fourplexes, cohousing affordable units, and assisted living and nursing care units. It is anticipated that phases three and four would begin in spring of 2013 and, assuming favorable market demand, phases five and six would begin in 2014. Buildout of the project would be anticipated by 2016.

Modeled construction phases and associated proposed land uses are summarized in **Table 3.3-7**. Short-term construction emissions impacts are described under Impact 3.3.1.

### Long-Term Impacts

Regional area- and mobile-source emissions were estimated using the URBEMIS2007 (Version 9.2.4) computer program. Emissions were calculated for annual operational conditions based on the default parameters contained in the model for Nevada County. Default trip-generation rates contained in the model were amended to correspond with trip-generation rates identified in the traffic analysis prepared for this project. Modeling was conducted for weekday and annual operational conditions. Emissions associated with the use of hearth devices were based on the modeling default assumptions.

The evaluation of local mobile-source CO concentrations was conducted using a screening procedure developed by the Bay Area Air Quality Management District (BAAQMD), which is a methodology previously approved for use by the NSAQMD. The BAAQMD screening procedure is based on the CALINE4 computer model, which was developed by the California Department of Transportation. Localized concentrations were quantitatively assessed for roadway intersections projected to operate at unacceptable levels of service (i.e., LOS E or worse), based on data obtained from the traffic analysis prepared for the proposed project. Ambient CO concentrations were based on the highest measured background concentrations measured at the nearest monitoring station for the last three years of available data. Emission factors were derived from the Emfac2007 computer model for Nevada County, for winter operational conditions. Eight-hour concentrations were calculated based on predicted 1-hour concentrations and assuming a persistence factor of 0.7. Exposure to localized concentrations

### 3.3 AIR QUALITY

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of odors and TACs were qualitatively assessed based on the projects potential to result in increased exposure of sensitive receptors to new or existing emission sources.

#### PROJECT IMPACTS AND MITIGATION MEASURES

#### Short-Term Construction-Generated Emissions of Criteria Air Pollutants (Standard of Significance 2)

**Impact 3.3.1** Construction-generated emissions would exceed applicable significance thresholds and could result in a significant contribution to local and regional pollutant concentrations. This impact is **potentially significant**.

Construction of the proposed project would generate short-term emissions of criteria air pollutants. The criteria pollutants of primary concern in Nevada County include ozone-precursor pollutants (i.e., ROG and NO<sub>x</sub>) and PM<sub>10</sub>.

Construction-generated emissions are short term and of temporary duration, lasting only as long as construction activities occur, but possess the potential to represent a significant air quality impact. The construction and development of residential, commercial, and industrial uses would result in the temporary generation of emissions resulting from site grading and excavation, road paving, motor vehicle exhaust associated with construction equipment and worker trips, and the movement of construction equipment, especially on unpaved surfaces. Emissions of airborne particulate matter are largely dependent on the amount of ground disturbance associated with site preparation activities.

The predicted maximum daily construction-generated emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> associated with project construction are summarized in **Table 3.3-7**. Based on the modeling conducted, maximum unmitigated construction-generated emissions of NO<sub>x</sub> and PM would occur during the initial site preparation/grading of the project site. Emissions of ROG would largely occur during the building construction phase, associated with the application of architectural coatings, as well as during road construction, associated with asphalt application. As indicated in **Table 3.3-7**, emissions would vary depending on the project phase, the specific land uses being constructed and the specific activities conducted. As previously stated, emissions were calculated using the URBEMIS2007 computer program as recommended by NSAQMD (NSAQMD 2009). The air quality model assumes one-quarter of the project phase area would be actively disturbed on any given day and an overall estimated 6-month construction period for each project phase. Project construction is estimated to require the import of 6,000 cubic yards of soil. For the purposes of this analysis, this soil is estimated to be imported with 11 round trips per day (hauling) at a round-trip distance of 20 miles during Phases 1 and 2.

**TABLE 3.3-7  
ESTIMATED SHORT-TERM EMISSIONS OF CRITERIA AIR POLLUTANTS  
FOR THE PROPOSED RINCON DEL RIO CONTINUING CARE RETIREMENT COMMUNITY**

Project Phase	Emissions (lbs/day)			
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Phase 1 and Phase 2 (constructed in 2012)	141	44	62	14.5
<i>Phase 1 and Phase 2 with mitigation</i>	127	44	35	9
Phase 3	74	21	23	5.5
Phase 4	23	21	12	3
Phase 5	55	19	19	4.5
Phase 6	20	19	12	3
Phase 7	20	18	9	2.5
Phase 8	79	30	29	7.5
Phase 9	45	16	16	4
Phase 10	34	16	17	4
Trail System Development Phase	6	38	18	5
NSAQMD Level A/C Thresholds	24/137	24/137	79/137	None
Individual Project Phases Exceed NSAQMD Level A/C Thresholds?	Yes/Yes	Yes/No	No/No	NA

As previously stated, the NSAQMD considers emissions in excess of Level C thresholds to have a significant air quality impact. Emissions below Level C thresholds are considered potentially significant and subject to the recommended mitigation of NSAQMD's *Mitigation for Use During Design and Construction Phases for Classifications as Level B Threshold* (NSAQMD 2009). NSAQMD-recommended mitigation measures are dependent on level of impact in comparison to NSAQMD-recommended significance thresholds (NSAQMD 2009). Accordingly, implementation of NSAQMD-recommended mitigation measures sufficient to reduce emissions to levels below 137 lbs/day are considered adequate to reduce air quality impacts to a less than significant level. NSAQMD-recommended significance thresholds are defined in **Table 3.3-6** above.

Based on the modeling conducted, estimated short-term daily emissions of NO<sub>x</sub> and PM<sub>10</sub> associated with the individual project phases would not exceed the NSAQMD-recommended Level C significance threshold of 137 pounds per day (lbs/day). However, emissions would exceed the NSAQMD-recommended Level C ROG significance threshold of 137 lbs/day during Phases 1 and 2.

In addition, emissions would exceed the Level A significance threshold of 24 lbs/day for ROG during Phases 3, 5, 8, 9, and 10 and for NO<sub>x</sub> during construction Phases 1, 2, and 8, as well as during installation of the trail system.

As noted earlier in this section, Nevada County is currently designated nonattainment for the ozone and PM<sub>10</sub> ambient air quality standard. Short-term increases of ozone-precursor pollutants (ROG and NO<sub>x</sub>) could potentially contribute to existing nonattainment conditions, depending on the construction phase. As a result, short-term increases of ROG and NO<sub>x</sub> would be considered

### 3.3 AIR QUALITY

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**potentially significant** and mitigation is required to reduce these increases. In the case of Phases 1 and 2, ROG emissions would have to be reduced to a level below 137 lbs/day during those phases. ROG emissions generated during construction Phases 3, 5, 8, 9, and 10 would trigger the requirement for NSAQMD-recommended mitigation measures from NSAQMD's *Mitigation for Use During Design and Construction Phases for Classifications as Level B Threshold*. NO<sub>x</sub> emissions generated during construction Phases 1, 2, and 8 and during trail system installation would also be subject to these NSAQMD-recommended measures.

In addition, NSAQMD Rule 226, Dust Control, requires the submittal of a Dust Suppression Control Plan to the NSAQMD for approval prior to any surface disturbance, including grading activities and the clearing of vegetation. In accordance with NSAQMD Rule 226, Dust Control, a Dust Suppression Control Plan (DSCP) shall be submitted for approval by the Nevada County Community Development Agency and NSAQMD. The DSCP must identify project phases and construction schedules to be implemented in order to ensure that mitigated construction-generated emissions would not exceed NSAQMD-recommended significance thresholds. The DSCP is required to include, but is not limited to, the following NSAQMD-recommended measures for the control of fugitive dust emissions:

- The project applicant shall be responsible for ensuring that all adequate dust control measures are implemented in a timely manner during all phases of project development and construction.
- All material excavated, stockpiled, or graded shall be sufficiently watered, treated, or covered to prevent fugitive dust from leaving the property boundaries and causing a public nuisance or a violation of an ambient air standard. Watering should occur at least twice daily, with complete site coverage.
- All areas with vehicle traffic shall be watered or have dust palliative applied as necessary for regular stabilization of dust emissions.
- All on-site vehicle traffic shall be limited to a speed of 15 mph on unpaved roads.
- All land clearing, grading, earth moving, or excavation activities on a project shall be suspended as necessary to prevent excessive windblown dust when winds are expected to exceed 20 mph.
- All inactive portions of the development site shall be covered, seeded, or watered until a suitable cover is established. Alternatively, the applicant may apply County-approved nontoxic soil stabilizers (according to manufacturers' specifications) to all inactive construction areas (previously graded areas which remain inactive for 96 hours) in accordance with the local grading ordinance.
- All material transported off-site shall be either sufficiently watered or securely covered to prevent public nuisance, and there must be a minimum of 6 inches of freeboard in the bed of the transport vehicle.
- Paved streets adjacent to the project shall be swept or washed at the end of each day, or more frequently if necessary, to remove excessive or visibly raised accumulations of dirt and/or mud which may have resulted from activities at the project site.
- Prior to final occupancy, the applicant shall re-establish ground cover on the site through seeding and watering in accordance with the local grading ordinance.

The following mitigation is required to address increases in the ozone-precursor pollutants, ROG and NO<sub>x</sub>. Mitigation measures **MM 3.3.1c** and **MM 3.3.1d** are sourced from NSAQMD's *Mitigation for Use During Design and Construction Phases for Classifications as Level B Threshold*, and mitigation measure **MM 3.3.1a** has been adapted from these recommendations in order to be more specific to the project and thus more stringent. Mitigation measure **MM 3.3.1b** is in addition to NSAQMD-recommended mitigation measures.

Mitigation Measures

**MM 3.3.1a** The project applicant shall submit to the NSAQMD for approval an Off-Road Construction Equipment Emission Reduction Plan prior to groundbreaking demonstrating that all off-road equipment (portable and mobile) meets or is cleaner than Tier 2 engine emission specifications unless prior written approval for any exceptions is obtained from NSAQMD. Note that all off-road equipment must meet all applicable state and federal requirements.

Construction contracts shall stipulate the following:

- Emissions from on-site construction equipment shall comply with NSAQMD Regulation II, Rule 202, Visible Emissions.
- The primary contractor shall be responsible to ensure that all construction equipment is properly tuned and maintained.
- Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes when not in use (as required by California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations). Clear signage shall be provided for construction workers at all access points.
- All construction equipment shall be maintained and properly tuned in accordance with manufacturers' specifications. All equipment shall be checked by a certified mechanic and determined to be running in proper condition prior to operation.
- Existing power sources (e.g., power poles) or clean fuel generators shall be utilized rather than temporary power generators where feasible.

*Timing/Implementation:* The Off-Road Construction Equipment Emission Reduction Plan shall be submitted and approved prior to issuance of grading permits for the first phase of construction. The plan shall be implemented during all phases of construction.

*Enforcement/Monitoring:* Nevada County Community Development Agency; Northern Sierra Air Quality Management District

**MM 3.3.1b** All architectural coating activities associated with construction of the proposed project shall be required to use interior and exterior coatings that contain less than 250 grams of volatile organic compounds (VOC/ROG) per liter of coating.

### 3.3 AIR QUALITY

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*Timing/Implementation: During construction*

*Enforcement/Monitoring: Nevada County Community Development Agency; Northern Sierra Air Quality Management District*

**MM 3.3.1c** Grid power shall be used (as opposed to diesel generators) for construction site power needs where feasible during construction.

*Timing/Implementation: During construction*

*Enforcement/Monitoring: Nevada County Community Development Agency; Northern Sierra Air Quality Management District*

**MM 3.3.1d** Deliveries of construction materials shall be scheduled to direct traffic flow to avoid the peak hours of 7–9:00 AM and 4–6:00 PM.

*Timing/Implementation: During construction*

*Enforcement/Monitoring: Nevada County Community Development Agency; Northern Sierra Air Quality Management District*

In accordance with NSAQMD Rule 226 and mitigation measures **MM 3.3.1a** through **MM 3.3.1d**, the project would be required to prepare a Dust Suppression Control Plan and an Off-Road Construction Equipment Emission Reduction Plan, employ the use of interior and exterior coatings that contain less than 250 grams of VOC/ROG, use grid power when feasible thus reducing diesel fuel consumption, and schedule off-peak-hour material deliveries. The DSCP would be required to identify construction schedules and project phases to be implemented, which would ensure that multiple project phases or construction activities would not occur simultaneously, thus reducing the amount of pollutants emitted in a single day.

Based on the proposed project phasing schedules, and with implementation of the above mitigation measures, maximum predicted construction-generated emissions would be reduced to a less than significant level. Due to limitations in the air quality computer model, only air pollutant reductions associated with watering the construction site twice daily as mandated by NSAQMD Rule 226 and the requirement to use interior and exterior coatings that contain less than 250 grams of VOC/ROG (mitigation measure **MM 3.3.1b**) can be quantified. Accounting for the reductions from these two mitigation strategies alone would reduce maximum predicted construction-generated emissions to approximately 127 lbs/day of ROG during Phases 1 and 2 when the Level C ROG significance threshold would be exceeded without mitigation, as shown in **Table 3.3-7**. However, it should be noted that emissions would most likely be reduced to an even further extent with implementation of the remaining aspects of Rule 226 and mitigation measures **MM 3.3.1a**, **MM 3.3.1c**, and **MM 3.3.1d**, which as previously stated could not be quantified. This is especially noteworthy in the case of NO<sub>x</sub> emissions, which are addressed under mitigation measure **MM 3.3.1a**.

The NSAQMD considers ROG and NO<sub>x</sub> emissions of less than 137 lbs/day to have a less than significant impact, and as demonstrated above, with incorporation of mitigation measures, no construction-generated emissions would exceed this threshold. The NSAQMD considers emissions that are below the Level C thresholds but exceeding the Level A thresholds to be potentially significant, subject to mitigation in order to be considered less than significant. Mitigation

measures **MM 3.3.1c** and **MM 3.3.1d** are sourced from NSAQMD's recommended mitigations, and **MM 3.3.1a** has been adapted from these recommendations in order to address generated emissions that exceed Level A thresholds.

With implementation of the proposed mitigation measures, this impact would be considered **less than significant**.

#### **Short-Term Exposure of Sensitive Receptors to Toxic Air Contaminants (Standard of Significance 4)**

**Impact 3.3.2** Health risks associated with intermittent exposure to construction-generated diesel-exhaust emissions would not be anticipated to exceed applicable thresholds. As a result, short-term exposure of sensitive receptors to TACs would be considered **less than significant**.

Potential sources of toxic air contaminants (TACs) associated with construction-related activities are primarily associated with the airborne entrainment of asbestos due to the disturbance of naturally occurring asbestos-containing soils, as well as emissions of DPM associated with the use of diesel-powered construction equipment. The proposed project is not located within an area designated by the State of California as likely to contain naturally occurring asbestos (DOC 2000). As a result, construction-related activities would not be anticipated to result in increased exposure of sensitive land uses to asbestos. Construction of the proposed land uses would, however, result in construction-generated diesel-exhaust emissions. Particulate exhaust emissions from diesel-fueled engines (DPM) were identified as a toxic air contaminant by CARB in 1998.

Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. For residential land uses, the calculation of cancer risk associated with exposure to TACs is typically based on a 70-year period of exposure. The use of diesel-powered construction equipment would be temporary and episodic and would occur over a relatively large area. In addition, mitigation measures incorporated for the control of particulate emissions from on-site construction equipment would substantially reduce emissions of DPM by approximately 40 percent or more. For these reasons, DPM generated by project construction, in and of itself, would not be expected to create conditions where the probability of contracting cancer is greater than 10 in 1 million for nearby receptors. Long-term health risks associated with short-term construction activities would therefore be considered **less than significant**.

#### Mitigation Measures

None required.

#### **Long-Term Emissions of Criteria Air Pollutants (Standard of Significance 2)**

**Impact 3.3.3** Project-generated long-term operational emissions would exceed applicable significance thresholds and could contribute to regional nonattainment conditions. As a result, this impact is considered **potentially significant**.

Long-term operation of the proposed project would generate emissions of ozone-precursor pollutants (i.e., ROG and NO<sub>x</sub>) and PM<sub>10</sub>. Long-term increases in area- and mobile-source emissions associated with the proposed land uses were estimated using the CARB-approved URBEMIS2007 computer program. Trip-generation rates assigned to the proposed land uses were based on those identified in the traffic analysis prepared for this project. Predicted maximum daily operational emissions were calculated for winter and summer conditions. Annual emissions, in tons per year, were also calculated.

### 3.3 AIR QUALITY

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Predicted operational emissions are summarized in **Table 3.3-8**. Based on the modeling conducted, mobile sources resulted in the greatest predicted contribution to project-related emissions during the summer months. However, during the winter months, estimated daily emissions would increase due to the assumed use of wood-burning fireplaces and stoves within proposed residential dwelling units, as well as the reentrainment of road dust due to the increased sanding of area roadways. Emissions from these two primary sources are discussed in more detail below.

#### Sewer Lift Station Pump Generator

The project proposes to construct an on-site sewer lift station (and possibly an intermediate lift station) and extend a 6-inch force main from the project site to Rodeo Flat Road. From the high point near the intersection of Rodeo Flat and Timber Ridge, the line would then gravity flow down Timber Ridge Road and eventually terminate at an existing manhole located on Riata Way near the Lake of the Pines Sewer Treatment Facility. All off-site construction of the sewer main would be located within existing public utility easements (PUEs) (the proposed wastewater system is illustrated on **Figure 2.0-16**).

The on-site sewer lift station is anticipated to include an emergency power generator, control panel, exhaust fans, and booster pump. The booster pump would be located below grade in an underground vault. The remaining equipment would be located above ground and housed in an enclosed structure. The emergency power generator would run on diesel fuel and therefore be an intermittent source of emissions as its operation will be rare and intermittent. Therefore, while the emergency power generator would be a source of air pollutant emissions, their use would be limited and resultant emissions negligible.

#### Wood-Burning Devices

The calculation of emissions from wood-burning devices assumes that 35 percent of the residential dwellings would be equipped with wood-burning stoves and 10 percent would be equipped with wood-burning fireplaces, based on default modeling assumptions contained in the URBEMIS2007 computer model for Nevada County. Based on the modeling conducted and in comparison to summer emissions, wood-burning appliances (i.e., fireplaces and stoves) would result in increased daily emissions of approximately 93 lbs/day of ROG, 12.5 lbs/day of NO<sub>x</sub>, 97 lbs/day of PM<sub>10</sub>, and 94 lbs/day of PM<sub>2.5</sub>. During the winter months, estimated emissions from wood-burning hearth devices constituted a majority of the estimated project-generated ROG and NO<sub>x</sub> emissions, resulting in increased emissions of these pollutants. However, despite the projected increases, NSAQMD's Level C significance thresholds would not be exceeded.

#### Reentrained Roadway Dust

The calculation of reentrained road dust is dependent, in part, on various factors including roadway conditions, vehicle speed, vehicle weight, and what is referred to as silt loading. The term "silt loading" can be defined as the amount of particles less than 74 microns in diameter per unit area of surface. The default assumptions contained in the URBEMIS2007 model are largely based on an average silt-loading factor of 0.1 grams per meter, which accurately reflect site-specific conditions of the project site.

As previously stated, operational emissions were calculated using the URBEMIS2007 (v9.2.4) computer program, based on default vehicle fleet distributions, trip characteristics, and emissions data contained in the model, except as noted. Trip-generation rates are based on the traffic analysis prepared for this project, and it is assumed that hearth devices are made up of 35

percent wood-burning stoves, 10 percent wood-burning fireplaces, and 55 percent natural gas fireplaces. The silt-loading factor of 0.1 gram/meter<sup>2</sup> for summer and winter conditions was used. Predicted operational emissions are summarized in **Table 3.3-8**.

**TABLE 3.3-8**  
**ESTIMATED OPERATIONAL EMISSIONS AT BUILDOUT WITHOUT MITIGATION**

Source	Estimated Emissions <sup>1</sup>								
	Summer (lbs/day)			Winter (lbs/day)			Annual (tons/year)		
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	ROG	NO <sub>x</sub>	PM <sub>10</sub>	ROG	NO <sub>x</sub>	PM <sub>10</sub>
Area Sources	25	4.5	–	118	17	94	8.2	1.2	4
Mobile Sources	13	12	18	12	17.5	3	2.3	2.5	3.2
Total	38	16.5	18	130	35	97	10.5	3.7	7.2
NSAQMD Level A/C Thresholds	24/137	24/137	79/137	24/137	24/137	79/137	None	None	None
Individual Project Phases Exceed NSAQMD Level A/C Thresholds? <sup>2</sup>	Yes/No	No/No	No/No	Yes/No	Yes/No	Yes/No	None	None	None

As previously stated, the NSAQMD considers emissions in excess of Level C thresholds to have a significant air quality impact. Accordingly, implementation of NSAQMD-recommended mitigation measures sufficient to reduce emissions to levels below 137 lbs/day is considered adequate to reduce air quality impacts to a less than significant level. In addition, the NSAQMD considers emissions that are below the Level C thresholds but exceeding the Level A thresholds to be potentially significant, subject to mitigation of NSAQMD's *Mitigation for Use During Design and Construction Phases for Classifications as Level B Threshold* (NSAQMD 2009) in order to be considered less than significant. NSAQMD-recommended significant thresholds are defined in **Table 3.3-6** above.

Estimated operational emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> would not exceed the NSAQMD's Level C significance threshold of 137 lbs/day during either the summer or winter months. However, emissions of ROG, NO<sub>x</sub>, and PM<sub>10</sub> are projected to exceed the NSAQMD's Level A significance threshold. According to NSAQMD guidance, emissions exceeding the Level A significance threshold would contribute to existing nonattainment conditions and may also interfere with the region's ability to maintain ambient air quality standards if no mitigation is implemented. This impact would be considered **potentially significant**, and the following mitigation is required.

#### Mitigation Measures

**MM 3.3.3** The project applicant shall adhere to the following NSAQMD-recommended mitigation measures to reduce long-term operational emissions:

- Use of wood-burning stoves or fireplaces within interior and exterior areas of residential land uses shall be prohibited. Each residence shall be equipped with a non-wood-burning source of heat.
- The project applicant shall provide, operate, and fund a green-waste drop-off site for residents.

### 3.3 AIR QUALITY

*Timing/Implementation:* Throughout the time span of project operations

*Enforcement/Monitoring:* Nevada County Community Development Agency; Northern Sierra Air Quality Management District

In addition to this mitigation, mitigation measure **MM 3.5.1b** (see Section 3.5, Climate Change and Greenhouse Gases, of this DEIR) Furthermore, many of the NSAQMD-recommended mitigations (NSAQMD 2009) are already proposed as part of the project. For instance, the proposed project would incorporate mixed land uses (residential and commercial) as well as recreational amenities and a minimum of two paratransit vehicles for the purposes of transporting facility residents to various business appointments, grocery and service needs, recreation, and special events. Each of these measures would reduce automobile trips and thus air pollutant emissions.

Implementation of the NSAQMD-recommended mitigation measures **MM 3.3.3** would result in substantial reductions in project-generated emissions, as shown in **Table 3.3-9**. Furthermore, mitigation measure **MM 3.5.1b** and various project proposals would also reduce air pollutant emissions during project operations, yet these reductions are unable to be quantified accurately. These measures would reduce pollutant emissions and conform to NSAQMD guidance regarding impacts that surpass the Level A significance threshold.

**TABLE 3.3-9  
ESTIMATED OPERATIONAL EMISSIONS AT BUILDOUT WITH MITIGATION**

Source	Estimated Emissions <sup>1</sup>								
	Summer (lbs/day)			Winter (lbs/day)			Annual (tons/year)		
	ROG	NO <sub>x</sub>	PM <sub>10</sub>	ROG	NO <sub>x</sub>	PM <sub>10</sub>	ROG	NO <sub>x</sub>	PM <sub>10</sub>
Area Sources	25	4.5	--	22	7	0.2	4	0.8	0
Mobile Sources	13	12	18	12	17.5	18	2	2.4	3
Total	38	16.5	18	34	24.5	18	6	3.2	3

Notes:

<sup>1</sup> Operational emissions were calculated using the URBEMIS2007 (v9.2.4) computer program, based on default vehicle fleet distributions, trip characteristics, and emissions data contained in the model, except as noted. Trip-generation rates based on the traffic analysis prepared for this project; hearth devices assume no wood-burning stove and no wood-burning fireplaces; silt-loading factor of 0.1 g/m<sup>2</sup> for summer and winter conditions.

The NSAQMD considers emissions of less than 137 lbs/day to have a less than significant impact, and as demonstrated in **Table 3.3-8**, no operational emissions would exceed this threshold.

The NSAQMD considers emissions that are below the Level C thresholds but exceeding the Level A significance thresholds to be potentially significant, subject to mitigation in order to be considered less than significant. As shown, prohibiting the use of wood-burning heating devices as mandated with mitigation measure **MM 3.3.3** would reduce area-source winter emissions to a total of approximately 22 lbs/day of ROG, 7 lbs/day of NO<sub>x</sub>, and 0.2 lbs/day of PM<sub>10</sub>. In total, project-generated winter emissions from both area and mobile sources would be reduced to approximately 34 lbs/day of ROG, 25 lbs/day of NO<sub>x</sub>, and 18 lbs/day of PM<sub>10</sub>. With implementation of mitigation measure **MM 3.3.3**, project-generated emissions would be reduced and the project would be in conformance with NSAQMD guidance regarding impacts that surpass the Level A significance threshold. Furthermore, mitigation measure **MM 3.5.1b** and

various project proposals would also reduce air pollutant emissions during project operations. This impact would be considered **less than significant**.

**Contribution to Near-Term Local Mobile-Source CO Concentrations (Standard of Significance 4)**

**Impact 3.3.4** Implementation of the proposed project would not contribute to localized concentrations of mobile-source CO that would exceed applicable standards. This impact would be considered **less than significant**.

The primary mobile-source criteria pollutant of local concern is carbon monoxide (CO). As noted previously, Nevada County is currently designated attainment for both state and national CO ambient air quality standards, and the county typically experiences low background CO concentrations.

Concentrations of CO are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Transport of this criteria pollutant is extremely limited; CO disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Given the high traffic volume potential, areas of high CO concentrations, or “hot spots,” are typically associated with intersections that are projected to operate at unacceptable levels of service (LOS E or worse) during the peak commute hours. Modeling is therefore typically conducted for intersections that are projected to operate at unacceptable levels of service during peak commute hours.

Based on the traffic analysis prepared for this project (KD Anderson 2011), the intersection of State Route 49 and Rincon Way would be projected to operate at an unacceptable level of service under future cumulative conditions. The State Route 49/Rincon Way intersection will operate with the westbound approach at an LOS F condition in the PM peak hour with implementation of the project. Modeling was conducted based on PM peak hour traffic volumes for winter operating conditions. To ensure a conservative analysis, predicted 1-hour and 8-hour CO concentrations were calculated assuming background CO concentrations of 3.4 and 2.6 ppm, respectively, based on data obtained from the nearest monitoring station. A persistence factor of 0.7 was used to convert predicted hourly concentrations to 8-hour concentrations. The predicted 1-hour and 8-hour CO concentrations for future cumulative conditions are summarized in **Table 3.3-10**.

**TABLE 3.3-10  
PREDICTED LOCAL MOBILE SOURCE CARBON MONOXIDE CONCENTRATIONS  
FUTURE PLUS PROJECT CONDITIONS (YEAR 2023 – ASSUMED PROJECT BUILDOUT)**

Interchange	Predicted CO Concentration (ppm)	
	1-hour	8-hour
State Route 49/Rincon Way	4.1	5.5
California Ambient Air Quality Standards (CAAQS)	20	9
Predicted Concentrations Exceed CAAQS?	No	No

*Note: Predicted CO concentrations are the sums of a background component, which includes the cumulative effects of all CO sources in the project area vicinity and the proposed project's contribution.*

### 3.3 AIR QUALITY

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As noted in **Table 3.3-10**, under future conditions predicted maximum 1-hour CO concentrations at the State Route 49/Rincon Way intersection are estimated at 4.1 parts per million (ppm) and predicted 8-hour CO concentrations would be 5.5 ppm. Predicted 1-hour and 8-hour CO concentrations would not exceed even the most stringent corresponding California Ambient Air Quality Standards (CAAQS) of 20 and 9 ppm, respectively. Since the proposed project would not contribute to predicted localized concentrations of mobile-source CO that would exceed applicable ambient air quality standards, this impact would be considered **less than significant**.

#### Mitigation Measures

None required.

#### **Exposure of Sensitive Receptors to Odorous Emissions (Standard of Significance 5)**

**Impact 3.3.5** Implementation of the proposed project would not result in increased exposure of sensitive receptors to odorous emissions. As a result, potential exposure of sensitive receptors to odors would be considered **less than significant**.

The occurrence and severity of odor impacts depends on numerous factors, including the nature, frequency, and intensity of the source, wind speed and direction, and the sensitivity of the receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generating citizen complaints to local governments and regulatory agencies. Projects with the potential to frequently expose members of the public to objectionable odors would be deemed to have a significant impact. Land uses commonly considered to be potential sources of odorous emissions include wastewater treatment plants, sanitary landfills, food processing facilities, chemical manufacturing plants, rendering plants, paint/coating operations, and agricultural feedlots and dairies.

No major sources of odors were identified in the vicinity of the project site that could potentially affect proposed on-site residential land uses. In addition, implementation of the proposed project would not result in the development or long-term operation of any on-site sources of odors. As a result, exposure of sensitive receptors to odorous emissions would be considered **less than significant**.

#### Mitigation Measures

None required.

#### **Long-Term Exposure of Sensitive Receptors to Toxic Air Contaminants (Standard of Significance 4)**

**Impact 3.3.6** Implementation of the proposed project would not result in increased exposure of planned residential land uses to mobile-source TACs. As a result, this impact is considered **less than significant**.

No major existing stationary sources of toxic air contaminants (TACs) were identified within one-quarter mile of the project site (CARB 2009). However, the proposed project would result in the construction of support services including a café, post office, recycling center, bakery, theater, ice cream parlor, pub, pharmacy, market/deli, beauty shop, bank, and dry cleaning, which could generate emissions of TACs. Such sources of TACs would be subject to NSAQMD rules and regulations, including NSAQMD Regulation IV (Authority to Construct), Regulation V (Permit to Operate), and Regulation IX (Toxics Air Contaminants). All stationary sources that have the potential to emit TACs are required to obtain permits from the NSAQMD. Permits may be

granted to these operations if they are constructed and operated in accordance with applicable regulations. As part of the NSAQMD's permitting requirements, sources having the potential to emit TACs would be required to implement measures designed to ensure that potential health risks to nearby receptors would not exceed established standards.

In addition to stationary sources of emissions, mobile sources of emissions may also contribute to localized concentrations of TACs that could adversely affect sensitive population groups. The project site is located east of State Route 49. Diesel-powered trucks traveling along State Route 49 are a source of DPM, which could adversely affect proposed sensitive land uses. Most researchers believe that diesel exhaust particles contribute the majority of the risk (roughly 70 percent by some estimates) because the particles in the exhaust carry many harmful organics and metals. Based on information obtained from CARB, population-weighted statewide average DPM concentrations for year 2010 are estimated to result in approximately 450 excess cancer cases per million people over a 70-year exposure period. It is important to note that this estimated cancer risk is best interpreted as background cancer risk. Cancer risks would be greater in areas located near major transportation corridors and stationary sources.

CARB released the *Air Quality and Land Use Handbook: A Community Health Perspective* in 2005. According to the handbook, sensitive land uses should generally not be located within 500 feet of a freeway with 100,000 vehicles per day. The project site is located approximately 1,300 feet east of State Route 49 at the closest point, well beyond the CARB-recommended buffer. Furthermore, existing traffic volumes along the closest segment of State Route 49 average approximately 56,000 vehicles per day (Caltrans 2010). Existing State Route 49 traffic volumes do not exceed CARB's handbook criteria of 100,000 vehicles per day for freeways.

Given that the proposed project is well beyond the CARB-recommended buffer of 500 feet from a highway which does not generate 100,000 vehicle trips per day, the proposed project would not result in increased exposure of planned residential land uses to mobile-source TACs. This impact would be considered **less than significant**.

#### Mitigation Measures

None required.

### 3.3.4 CUMULATIVE SETTING, IMPACTS, AND MITIGATION MEASURES

#### CUMULATIVE SETTING

The cumulative setting for air quality includes Nevada County in its entirety and the Mountain Counties Air Basin. Nevada County is currently designated nonattainment for ozone and PM<sub>10</sub> standards. Cumulative growth in population, vehicle use, and industrial activity could inhibit efforts to improve regional air quality and attain the ambient air quality standards.

#### CUMULATIVE IMPACTS AND MITIGATION MEASURES

#### **Contribution to Cumulative CO and TAC Concentrations (Standard of Significance 4)**

**Impact 3.3.7** Implementation of the proposed project, in combination with existing, approved, proposed, and reasonably foreseeable development in the Mountain Counties Air Basin, would not contribute to localized concentrations of mobile-source CO or TACs that would exceed applicable ambient air quality standards. This impact would be considered **less than cumulatively considerable**.

### 3.3 AIR QUALITY

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#### Proposed CCRC Development

As noted in the discussion for Impact 3.3.4, the criteria mobile-source air pollutant of primary local concern is carbon monoxide. However, implementation of the proposed project would not be anticipated to contribute to localized concentrations of CO that would exceed applicable ambient air quality standards under future cumulative conditions. In addition, as noted in the discussion for Impact 3.3.6, implementation of the proposed project would not result in the long-term operation of any major stationary sources of toxic air contaminants, and no major stationary sources of TACs have been identified in the vicinity of the proposed project site. As a result, the proposed project's cumulative contribution to localized concentrations of criteria and hazardous air pollutants would be considered **less than cumulatively considerable**.

#### General Plan and Zoning Ordinance Text Amendments

As discussed in further detail in Section 4.0, Cumulative Impacts Summary, the proposed General Plan and Zoning Ordinance text amendments are policy actions that would not directly contribute to localized concentrations of CO and TAC in the cumulative setting. Although CCRCs would be permitted in either a PD (Planned Development) or SDA (Special Development Area) land use designation with approval of a zone change after implementation of the proposed project, such rezoning applications would be subject to further CEQA analysis of project-specific impacts (proposed Zoning Ordinance amendment Section L.II 2.7.11(C)(4)), including air quality impacts. At a programmatic level, the environmental impacts associated with development of all PD and SDA designated areas in the county were analyzed in the Nevada County General Plan Environmental Impact Report, Volume I, SCH #1995102136 (1995). Future site-specific CEQA analysis would result in project-specific mitigation to address CO and TAC concentrations. Therefore, cumulative regional air quality impacts associated with the proposed General Plan and Zoning Ordinance text amendments are considered **less than cumulatively considerable**.

#### Mitigation Measures

None required.

#### **Contribution to Cumulative Regional Air Quality Conditions (Standards of Significance 1 & 3)**

**Impact 3.3.8** Long-term operation of the proposed project, in combination with existing, approved, proposed, and reasonably foreseeable development in the Mountain Counties Air Basin, would contribute to cumulative increases in emissions of ozone-precursor pollutants (ROG and NO<sub>x</sub>) and PM<sub>10</sub> that could contribute to future concentrations of ozone and PM<sub>10</sub>, for which the region is currently designated nonattainment. This impact would be considered **cumulatively considerable**.

#### Proposed CCRC Development

The county is designated nonattainment status for ozone and PM<sub>10</sub>. As a nonattainment area, the NSAQMD is required to prepare a federally enforceable State Implementation Plan (SIP) for western Nevada County in accordance with the Clean Air Act. The SIP is an air quality attainment plan designed to reduce emissions of ozone precursors enough to re-attain the federal ozone standard by the earliest practicable date. The air quality attainment plan (titled *Reasonably Available Control Technology State Implementation Plan Revision for Western Nevada County 8-Hour Ozone Non-Attainment Area*) includes various pollution control

strategies. Overall emissions of ozone precursors must be reduced in western Nevada County (consistent with Reasonable Further Progress requirements specified in the Clean Air Act) until attainment is reached. As discussed for Impact 3.3.1, predicted short-term construction-generated emissions of ROG would exceed NSAQMD's Level C significance thresholds, though they would be mitigated to a less than significant level (see mitigation measures **MM 3.3.1a** through **3.3.1d**). In addition, with implementation of mitigation measure **MM 3.3.3**, project-generated operational emissions would be reduced to a less than significant level. Adherence to these mitigation measures would ensure the project, by itself, does not surpass NSAQMD significance thresholds and therefore does not conflict with the goals of the SIP.

According to NSAQMD guidance, impacts of local pollutants are cumulatively significant when modeling shows that combined emissions from the project and other existing and planned projects will exceed air quality standards. As discussed for Impact 3.3.1, predicted short-term construction-generated emissions of ROG would exceed NSAQMD's Level C significance thresholds, though they would be mitigated to a less than significant level and project-generated operational emissions would also be reduced to a less than significant level. However, other projects are planned within the county. For example, the Loma Rica Ranch Specific Plan project has proposed to develop 700 residential units, 54,000 square feet of commercial and retail building space, and 364,161 square feet of business and light industrial building space in Grass Valley. The combined emissions from the Loma Rica Ranch Specific Plan and the proposed project would exceed NSAQMD's Level C significance thresholds.

#### General Plan and Zoning Ordinance Text Amendments

As discussed in further detail in Section 4.0, Cumulative Impacts Summary, the proposed General Plan and Zoning Ordinance text amendments are policy actions that would not directly contribute to cumulative increases in emissions of ozone-precursor pollutants (ROG and NO<sub>x</sub>) and PM<sub>10</sub> in the cumulative setting. Although CCRCs would be permitted in either a PD (Planned Development) or SDA (Special Development Area) land use designation with approval of a zone change after implementation of the proposed project, such rezoning applications would be subject to further CEQA analysis of project-specific impacts (proposed Zoning Ordinance amendment Section L.II 2.7.11(C)(4)), including air quality impacts. At a programmatic level, the environmental impacts associated with development of all PD and SDA designated areas in the county were analyzed in the Nevada County General Plan Environmental Impact Report, Volume I, SCH #1995102136 (1995). Future site-specific CEQA analysis would result in project-specific mitigation to address impacts.

#### Mitigation Measures

Implement mitigation measures **MM 3.3.1a** through **MM 3.3.1d** and **MM 3.3.3**.

According to NSAQMD guidance, impacts of local pollutants are cumulatively significant when modeling shows that combined emissions from the project and other existing and planned projects will exceed air quality standards. As discussed above, other projects, in combination with the proposed project, are planned within the county. Just the combined emissions of the Loma Rica Ranch Specific Plan proposal (700 residential units, 54,000 square feet of commercial and retail uses, and 364,161 square feet of business and industrial uses) and the proposed project would exceed NSAQMD's Level C significance thresholds. As a result, increases in project-related emissions, though considered less than significant at the project level, could on a cumulative basis contribute to existing nonattainment conditions. As a result, this impact would be considered **cumulatively considerable** and **significant and unavoidable**.

### 3.3 AIR QUALITY

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#### REFERENCES

- Caltrans (California Department of Transportation). 2010. "Traffic Volumes on California Highways." Accessed August 9, 2011. <http://www.dot.ca.gov/hq/traffops/saferesr/trafdata/>.
- CARB (California Air Resources Board). 2005. *Air Quality and Land Use Handbook: A Community Health Perspective*.
- . 2009. "Community Health Air Pollution Information System (CHAPIS)." Accessed August 9. [http://www.arb.ca.gov/gismo2/chapis\\_v01\\_6\\_1\\_04/](http://www.arb.ca.gov/gismo2/chapis_v01_6_1_04/).
- . 2010a. "Ambient Air Quality Standards." Accessed April 22, 2011. <http://www.arb.ca.gov/research/aaqs/aaqs2.pdf>.
- . 2010b. "Air Quality Data Statistics." Accessed April 22, 2011. <http://www.arb.ca.gov/adam/index.html>.
- . 2010c. "Area Designation Maps – State and National." Accessed April 22, 2011. <http://www.arb.ca.gov/desig/adm/adm.htm>.
- . 2010d. "ARB Health-Related Fact Sheets." Accessed April 22, 2011. [www.arb.ca.gov/research/health/fs/fs.htm](http://www.arb.ca.gov/research/health/fs/fs.htm).
- DOC (California Department of Conservation). 2000. *A General Location Guide for Ultramafic Rocks in California—Areas More Likely to Contain Naturally Occurring Asbestos*.
- KD Anderson & Associates, Inc. 2011. *Traffic Impact Analysis for Rincon del Rio Continuing Care Retirement Community, Nevada County, CA*.
- NSAQMD (Northern Sierra Air Quality Management District). 2005. "Ambient Air Quality Monitoring, Annual Report." [www.myairdistrict.com/index.php/air-monitoring/2005-report](http://www.myairdistrict.com/index.php/air-monitoring/2005-report).
- . 2009. *Guidelines for Assessing and Mitigating Air Quality Impacts of Land Use Projects*. Revised August 18, 2009.