SECTION 4.2 AIR QUALITY

4.2.1 Introduction

This section includes a description of existing air quality conditions, a summary of applicable regulations, and analyses of potential short-term and long-term air quality impacts of the Life Time Fitness Project (proposed project). Referenced materials include the following:

- *City of Roseville General Plan 2025*, as amended February 2013 (City of Roseville 2013)
- *Stoneridge Specific Plan and Design Guidelines* (City of Roseville 2007)
- *Stoneridge Specific Plan Environmental Impact Report* (City of Roseville 1998)
- *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (PCAPCD 2008)
- *2009 Triennial Report* (PCAPCD 2010)
- *Air Quality Impact and Greenhouse Gas Analysis, Life Time Fitness Project*, Raney Planning & Management Inc. (included in Appendix C)
- *Transportation Impact Study*, Fehr & Peers (included in Appendix E).

The documents listed above are available for review during normal business hours (Monday through Friday 8 a.m. to 5 p.m.) at the City of Roseville Permit Center, 311 Vernon Street, Roseville, California 95678.

Only one comment was received in response to the Notice of Preparation (NOP), requesting impacts associated with odor generating activities be evaluated. No other comments relative to air quality were received in response to the NOP. See Appendix A for a copy of the NOP and Initial Study and comments received in response to the NOP.

4.2.2 Environmental Setting

The proposed project site is located in western Placer County, which falls within the Sacramento Valley Air Basin (SVAB) and is within the jurisdictional boundaries of the Placer County Air Pollution Control District (PCAPCD). Air flows into the SVAB through the Carquinez Strait, moves across the Delta, and carries pollutants from the heavily populated San Francisco Bay Area into the SVAB. The climate is characterized by hot, dry summers and cool, rainy winters. Characteristic of SVAB winter weather are periods of dense and persistent low-level fog, which are most prevalent between storms. From May to October, the region's intense heat and sunlight lead to high ozone concentrations. Prevailing winds are from the south and southwest, and as a result, air quality in the area is heavily influenced by mobile and stationary sources of air pollution located upwind in the Sacramento Metropolitan Area.

Most precipitation in the SVAB results from air masses moving in from the Pacific Ocean during the winter months. Storms usually move through the area from the west or northwest. Over half the total annual precipitation falls during the winter rainy season (November through February), while the average winter temperature is a moderate 49 degrees Fahrenheit (49°F). During the summer, daytime temperatures can exceed 100°F. Dense fog occurs mostly in midwinter and rarely in the summer. Daytime temperatures from April through October average between 70°F and 90°F with extremely low humidity. The inland location and surrounding mountains shelter the valley from much of the ocean breeze that keeps the coastal regions moderate in temperature. The only breach in the mountain barrier is the Carquinez Strait, which exposes the midsection of the valley to the coastal air mass.

Air quality in Placer County is also affected by inversion layers, which occur when a layer of warm air traps a layer of cold air, preventing vertical dispersion of air contaminants. The presence of an inversion layer results in higher concentrations of pollutants near ground level. Summer inversions are strong and frequent, but are less troublesome than those that occur in the autumn. Autumn inversions, formed by warm air subsiding in a region of high pressure, have accompanying light winds that do not provide adequate dispersion of air pollutants.

Air quality in the project vicinity is influenced by both local and distant emission sources. Air pollutant sources in the immediate project vicinity include emissions from vehicle traffic on Interstate 80 (I-80) and other nearby roadways. Other, more distant, air pollutant sources in the area include area sources such as activities associated with commercial and industrial land uses.

Air Pollutants and Ambient Air Quality Standards

Both the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have established ambient air quality standards for common pollutants. The federal standards are divided into primary standards, which are designed to protect the public health, and secondary standards, which are designed to protect the public welfare. The ambient air quality standards for each contaminant represent safe levels that avoid specific adverse health effects. Pollutants for which air quality standards have been established are called “criteria” pollutants. Table 4.2-1 identifies the major pollutants, characteristics, health effects, and typical sources. The federal and California ambient air quality standards are summarized in Table 4.2-2. The federal and state ambient standards were developed independently, with differing purposes and methods. As a result, the federal and state standards differ in some cases. In general, the State of California standards are more stringent, particularly for ozone and particulate matter (PM_{10} and $PM_{2.5}$), than the federal standards.

Ozone

Ozone is the most prevalent of a class of photochemical oxidants formed in the urban atmosphere. The creation of ozone is a result of a complex chemical reaction between reactive organic gases (ROG) and nitrogen oxide gases (NO_x) in the presence of sunshine. Unlike other pollutants, ozone is not released directly into the atmosphere from any sources. Factories, automobiles, and evaporation of solvents and fuels are the major sources of ozone precursors. The health effects of ozone are difficulty breathing, lung tissue damage, and eye irritation.

Carbon Monoxide

Carbon monoxide (CO) is a colorless, odorless, poisonous gas produced by incomplete burning of carbon-based fuels such as gasoline, oil, and wood. When CO enters the body, the CO combines with chemicals in the body, which prevents blood from carrying oxygen to cells, tissues, and organs. Symptoms of exposure to CO can include problems with vision, reduced alertness, and general reduction in mental and physical functions. Exposure to CO can result in chest pain, headaches, and reduced mental alertness, and at high concentrations can lead to death.

Table 4.2-1
Major Criteria Pollutants

Pollutant	Characteristics	Health Effects	Examples of Sources
Ozone	A strong-smelling, pale blue, reactive, toxic chemical gas consisting of three oxygen atoms. Ozone exists in the upper atmosphere ozone layer (stratospheric ozone) as well as at the Earth's surface in the troposphere (ground-level ozone). Ozone in the troposphere causes numerous adverse health effects, is a criteria air pollutant, and is a major component of smog.	Breathing difficulties Lung tissue damage Damage to rubber and some plastics Eye and skin irritation	Formed when ROG and NO_x react in the presence of sunlight. ROG and NO_x sources include any source that burns fuels (e.g., gasoline, natural gas, wood, oil), solvents, petroleum processing and storage, and pesticides.
Carbon monoxide	A colorless, odorless gas resulting from the incomplete combustion of hydrocarbon fuels. Over 80% of the CO emitted in urban areas is contributed by motor vehicles.	Chest pain in heart patients Headaches and nausea Reduced mental alertness High concentrations can result in death	Any source that burns fuel, such as automobiles, trucks, heavy construction equipment, farming equipment, and residential heating.
Nitrogen dioxide	Nitrogen dioxide is typically created during combustion processes, and is a major contributor to smog formation and acid deposition.	Lung irritation and damage Reacts in the atmosphere to form ozone and acid rain	Any source that burns fuel, such as automobiles, trucks, heavy construction equipment, farming equipment, and residential heating.
Sulfur dioxide	A strong smelling, colorless gas that is formed by the combustion of fossil fuels.	Increased lung disease and breathing problems for asthmatics Reacts in the atmosphere to form acid rain	Coal- or oil-burning power plants and industries, refineries, and diesel engines.

Table 4.2-1
Major Criteria Pollutants

Pollutant	Characteristics	Health Effects	Examples of Sources
Particulate matter (PM_{10} and $PM_{2.5}$)	Any material, except pure water, that exists in the solid or liquid state in the atmosphere. The size of particulate matter can vary from coarse, wind-blown dust particles to fine-particle combustion products.	Increased respiratory disease Lung damage Premature death Reduced visibility	Fuel combustion in motor vehicles, equipment and industrial sources, and residential and agricultural burning. Particulate matter is also formed from reaction of other pollutants (acid rain, NO_x, sulfates (SO_x), organics).

Source: CARB 2013a.

Table 4.2-2
Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	Federal Standards	
			Primary	*Secondary*
Ozone	1 hour	0.09 ppm	—	Same as primary
	8 hour	0.07 ppm	0.075 ppm	
Carbon monoxide	8 hour	9 ppm	9 ppm	—
	1 hour	20 ppm	35 ppm	
Nitrogen dioxide	Annual mean	0.03 ppm	0.053 ppm	Same as primary
	1 hour	0.18 ppm	0.100 ppm	
Sulfur dioxide	Annual mean	—	0.030 ppm	—
	24 hour	0.04 ppm	0.14 ppm	—
	3 hour	—	—	0.50 ppm
	1 hour	0.25 ppm	0.075 ppm	—
Respirable particulate patter (PM_{10})	Annual mean	20 $\mu g/m^3$	—	Same as primary
	24 hour	50 $\mu g/m^3$	150 $\mu g/m^3$	
Fine particulate matter ($PM_{2.5}$)	Annual mean	12 $\mu g/m^3$	12.0 $\mu g/m^3$	15.0 $\mu g/m^3$
	24 hour	—	35 $\mu g/m^3$	Same as primary
Lead	30-day average	1.5 $\mu g/m^3$	—	—
	Calendar quarter	—	1.5 $\mu g/m^3$	Same as primary
	Rolling 3-month average	—	0.15 $\mu g/m^3$	—

Sources: PCAPCD 2012; CARB 2012; EPA 2012.
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter

Nitrogen Oxide Gases

NO_x are produced from burning fuels, including gasoline and coal. NO_x react with ROG (found in paints and solvents) to form ozone, which can harm health, damage the environment, and cause poor visibility. Additionally, NO_x emissions are a major component of acid rain. Health effects related to NO_x include lung irritation and lung damage.

Sulfates

Sulfates (SO_x) are colorless gases and constitute a major element of pollution in the atmosphere. SO_x are commonly produced by fossil fuel combustion. In the atmosphere, SO_x are usually oxidized by ozone and hydrogen peroxide to form sulfur dioxide and trioxide. If SO_x are present during condensation, acid rain may occur. Exposure to high concentrations for short periods can constrict the bronchi and increase mucus flow, making breathing difficult. Children, the elderly, those with chronic lung disease, and asthmatics are especially susceptible to these effects.

Particulate Matter

Suspended particulate matter (airborne dust) consists of solid and liquid particles small enough to remain suspended in the air for long periods. "Respirable" particulate matter (PM) consists of particles less than 10 microns in diameter, and is defined as "suspended particulate matter" or PM_{10}. Particles between 2.5 and 10 microns in diameter arise primarily from natural processes, such as wind-blown dust or soil. Fine particles are less than 2.5 microns in diameter ($PM_{2.5}$). $PM_{2.5}$, by definition, is included in PM_{10}. Fine particles are produced mostly from combustion or burning activities. Fuel burned in cars and trucks, power plants, factories, fireplaces, and wood stoves produce fine particles.

Particulate matter is a complex mixture that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. The tiny particles vary greatly in shape, size, and chemical composition, and can be made up of many different materials, such as metals, soot, soil, and dust. Particulate matter is divided into two classes, primary and secondary. Primary particles are released directly into the atmosphere from sources of generation. Secondary particles are formed in the atmosphere as a result of reactions involving gases. Particles greater than 10 microns in diameter can cause irritation in the nose, throat, and bronchial tubes. Natural mechanisms remove many of these particles, but smaller particles are able to pass through the body's natural defenses, including the mucous membranes of the upper respiratory tract, and enter the lungs. The particles can damage the alveoli, tiny air sacs responsible for gas exchange in the lungs. The particles may also carry carcinogens and other toxic compounds, which adhere to the particle surfaces and can enter the lungs.

Toxic Air Contaminants

In addition to the criteria pollutants presented in the tables above, toxic air contaminants (TACs) are also a category of environmental concern. Many types of TACs exist, with varying degrees of toxicity. Sources of TACs include industrial processes such as petroleum refining and chrome plating operations, commercial operations such as gasoline stations and dry cleaners, and motor vehicle exhaust. Cars and trucks release at least 40 different TACs. In terms of health risks, the most volatile contaminants are diesel particulate matter, benzene, formaldehyde, 1,3-butadiene, and acetaldehyde. Public exposure to TACs can result from emissions from normal operations as

well as from accidental releases. Health effects of TACs include cancer, birth defects, neurological damage, and death.

Attainment Status and Regional Air Quality Plans

The federal Clean Air Act (CAA; 42 U.S.C. 7401 et seq.) and the California Clean Air Act (CCAA) require all areas of California to be classified as attainment, nonattainment, or unclassified as to their status with regard to the federal and/or state Ambient Air Quality Standards (AAQS). The CAA and CCAA require that the CARB, based on air quality monitoring data, designate portions of the state where the federal or state AAQS are not met as "nonattainment areas." Because of the differences between the national and state standards, the designation of nonattainment areas is different under the federal and state legislation. The CAA requires local air pollution control districts to prepare air quality attainment plans. These plans must provide for district-wide emission reductions of 5% per year averaged over consecutive 3-year periods or provide for adoption of "all feasible measures on an expeditious schedule."

As presented in Table 4.2-3, Placer County has been designated nonattainment for the state 1-hour ozone, state and federal 8-hour ozone, state PM_{10}, and federal 24-hour $PM_{2.5}$ standards. The county is designated attainment or unclassified for all other AAQS.

Table 4.2-3
Placer County Attainment Status Designations

Pollutant	Averaging Time	California Standards	Federal Standards
Ozone	1 hour	Nonattainment	—
	8 hour	Nonattainment	Nonattainment/Severe 15
Carbon monoxide	8 hour	Attainment	Attainment
	1 hour	Attainment	Attainment
Nitrogen dioxide	Annual mean	Attainment	Unclassified/Attainment
	1 hour	Attainment	Unclassified/Attainment
Sulfur dioxide	Annual mean	Attainment	Unclassified/Attainment
	24 hour	Attainment	Unclassified/Attainment
	3 hour	—	Unclassified/Attainment
	1 hour	Attainment	—
Respirable particulate matter (PM_{10})	Annual mean	Nonattainment	—
	24 hour	Nonattainment	Unclassified
Fine particulate matter ($PM_{2.5}$)	Annual mean	Attainment	Unclassified/Attainment
	24 hour	—	Nonattainment
Lead	30-day average	Attainment	—
	Calendar quarter	—	Unclassified/Attainment
	Rolling 3-month average	—	Unclassified/Attainment

Sources: PCAPCD 2012; CARB 2013b.

Under the CAA requirements, each nonattainment area throughout the state is required to develop a regional air quality management plan. Collectively, all regional air quality management plans throughout the state constitute the State Implementation Plan (SIP). As a part of the SVAB federal ozone nonattainment area, the PCAPCD worked with the other local air districts within the Sacramento area to develop a regional air quality management plan to describe and demonstrate how Placer County, as well as the Sacramento nonattainment area, would attain the required federal 8-hour ozone standard by the proposed attainment deadline. In accordance with the requirements of the CAA, the PCAPCD, along with the other air districts in the region, prepared the *Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan* (Ozone Attainment Plan) in December 2008. The PCAPCD adopted the Ozone Attainment Plan on February 19, 2009, and the CARB determined that the plan meets CAA requirements and approved it on March 26, 2009, as a revision to the SIP. Accordingly, the Ozone Attainment Plan is the applicable air quality plan for the region.

Local Air Quality Monitoring

The proposed project site is located near the Roseville–North Sunrise Boulevard air pollution monitoring station, which is located at 151 North Sunrise Boulevard in Roseville, California. Table 4.2-4 presents historical occurrences of pollutant levels exceeding the state and federal AAQS for the 3-year period from 2009–2011. The number of days that each standard was exceeded is presented in the table as well.

As shown in the table, the state 1-hour AAQS, as well as the state and federal 8-hour AAQS, for ozone were exceeded. In addition, the state PM_{10} and state and federal $PM_{2.5}$ AAQS were exceeded. All other state and federal AAQS were met in the area.

Table 4.2-4
Air Quality Data Summary: Roseville–North Sunrise Boulevard Monitoring Site (2009–2011)

Pollutant	Standard	Days Standard Was Exceeded		
		2009	*2010*	*2011*
Ozone	State 1 hour	13	9	11
Ozone	Federal 1 hour	0	0	0
Ozone	State 8 hour	32	21	23
Ozone	Federal 8 hour	19	15	15
PM_{10}	State 24 hour	0	0	7
PM_{10}	Federal 24 hour	0	0	0
$PM_{2.5}$	State annual mean	14	14	11
$PM_{2.5}$	Federal 24 hour	0	0	7
Nitrogen dioxide	State 1 hour	0	0	0

Source: CARB 2013c.

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Children, pregnant women, the elderly, and those with existing health problems are especially vulnerable to the effects of air pollution. Accordingly, land uses that are typically considered sensitive receptors include residences, schools, day care centers, playgrounds, and medical facilities. For analysis purposes, the residences located east of the site, as well as the Silver Ridge Senior Apartments and Saint Anna Greek Orthodox Church and Saint Anna Preschool and Daycare adjacent to the southern boundary of the site would be considered the closest sensitive receptors.

4.2.3 Regulatory Setting

Air quality is monitored through the efforts of various international, federal, state, regional, and local government agencies. The agencies work jointly and individually to improve air quality through legislation, regulations, planning, policymaking, education, and a variety of programs. The agencies responsible for regulating and improving the air quality within the City of Roseville area are discussed below.

Federal Regulations

Federal Clean Air Act

The CAA required the EPA to establish National AAQS (NAAQS) and set deadlines for attainment. The CAA also requires each state to prepare an air quality control plan, referred to as a SIP. The CAA 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 EPA has the responsibility to review all state SIPs to determine conformance to the mandates of the CAA and the amendments thereof and determine whether implementation would achieve air quality goals. If the EPA 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 to transportation funding and stationary air pollution sources in the air basin.

State Regulations

California Air Resources Board

The CARB is the agency responsible for coordination and oversight of state and local air pollution control programs in California and for the CCAA, adopted in 1988. The CARB also has primary responsibility in California to develop and implement air pollution control plans designed to achieve and maintain the NAAQS established by the EPA. Collectively, all regional air pollution control plans or air quality management plans to achieve the NAAQS throughout the state constitute the SIP. The CARB, California's air quality management agency, regulates mobile emission sources and oversees the activities of county air pollution control districts and regional air quality management districts. The CARB regulates local air quality indirectly by using state standards and vehicle emission standards, conducting research activities, and carrying out planning and coordinating activities. California has adopted ambient standards that are in some cases more stringent than the federal standards for the criteria air pollutants. Areas have been designated as attainment or nonattainment with respect to state standards.

California Clean Air Act

The CCAA requires that air quality plans be prepared for areas of the state that have not met state air quality standards for ozone, CO, NO_x, and SO_2. Among other requirements of the CCAA, the plans must include a wide range of implementable control measures, which often include transportation control measures and performance standards. In order to implement the transportation-related provisions of the CCAA, local air pollution control districts have been granted explicit authority to adopt and implement transportation controls.

Senate Bill 656

In 2003, the State Legislature passed Senate Bill (SB) 656 to reduce public exposure to PM_{10} and $PM_{2.5}$. The legislation requires the 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_{10} and $PM_{2.5}$. The legislation establishes a process for achieving near-term reductions in PM throughout California ahead of federally required deadlines for $PM_{2.5}$, and provides new direction on PM reductions in those areas not subject to federal requirements for PM. 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. These measures include, but are not limited to, the following:

- Reduce or eliminate wood-burning devices allowed

- Prohibit residential open burning
- Permit and provide performance standards for controlled burns
- Require water or chemical stabilizers/dust suppressants during grading activities
- Limit visible dust emissions beyond the project boundary during construction
- Require paving/curbing of roadway shoulder areas
- Require street sweeping.

2010 Green Building Code

On January 12, 2010, the California Building Standards Commission adopted the 2010 California Green Building Standards Code, otherwise known as the CALGreen Code. In addition to the new statewide mandates, CALGreen encourages local governments to adopt more stringent voluntary provisions, known as Tier 1 and Tier 2 provisions, to further reduce air pollutant emissions, improve energy efficiency, and conserve natural resources. If a local government adopts one of the tiers, the provisions become mandates for all new construction within that jurisdiction. The most significant features of the 2010 CALGreen Code include the following:

- A 20% mandatory reduction in indoor water use, with voluntary goal standards for 30%, 35%, and 40% reductions
- Separate indoor and outdoor water meters to measure nonresidential buildings' indoor and outdoor water use, with a requirement for moisture-sensing irrigation systems for larger landscape projects
- Diversion of 50% of construction waste from landfills, increasing voluntarily to 65% and 75% for new homes and 80% for commercial projects
- Mandatory periodic inspections of energy systems (i.e., heat furnace, air conditioner, mechanical equipment) for nonresidential buildings over 10,000 square feet to ensure that all are working at their maximum capacity according to their design efficiencies
- Mandatory use of low-pollutant-emitting interior finish materials such as paints, carpet, vinyl flooring, and particleboard.

Local Regulations

At the local level, air quality is managed by the PCAPCD and the City of Roseville.

Placer County Air Pollution Control District

The PCAPCD regulates many sources of pollutants in the ambient air, and is responsible for implementing certain programs and regulations for controlling air pollutant emissions to improve air quality in order to attain federal and state AAQS. Various development projects have the potential to generate air pollutants that would result in adverse environmental impacts. In order to evaluate air pollutant emissions from development projects, the PCAPCD has established significance thresholds for emissions of ROG, NO_x, PM_{10}, and CO. The PCAPCD's *CEQA Air Quality Handbook* includes the recommended significance thresholds as listed in Table 4.2-5, expressed in pounds per day (lbs/day), which serve as air quality standards in the evaluation of air quality impacts associated with development projects.

Table 4.2-5
PCAPCD-Recommended Thresholds of Significance

Pollutant	Construction/Operational Threshold (lbs/day)	Cumulative Threshold (lbs/day)
ROG	82	10
NO_X	82	10
PM_{10}	82	N/A
CO	550	N/A

Source: PCAPCD 2012.
N/A = not applicable

Ozone Attainment Plan

Placer County has been designated nonattainment for the federal 8-hour ozone standard. Accordingly, the Sacramento Regional 8-Hour Ozone Attainment and Reasonable Further Progress Plan (Ozone Attainment Plan) was prepared to describe and demonstrate how Placer County, as well as the Sacramento nonattainment area, would attain the required federal 8-hour ozone standard by the proposed attainment deadline. The Ozone Attainment Plan demonstrates how existing and new control strategies would provide the necessary future emission reductions to meet the federal CAA requirements, including the NAAQS. Adoption of all reasonably available control measures is required for attainment. Measures could include, but are not limited to, the following: regional mobile incentive programs, urban forest development programs, and local regulatory measures for emission reductions related to architectural coatings, automotive refinishing, natural gas production and processing, asphalt concrete, and various others. The Ozone Attainment Plan is the currently adopted and applicable air quality plan for the region. Therefore, the PCAPCD, along with other local air districts in the Sacramento region, is required to comply with and implement the Ozone Attainment Plan.

Triennial Progress Report

To comply with the planning requirements of the CCAA, the PCAPCD has prepared several triennial progress reports that build upon the Air Quality Attainment Plan adopted in 1991. The *2009 Triennial Progress Report* (PCAPCD 2010) is the most recent report. The triennial progress report, like the Ozone Attainment Plan, includes a current emission inventory and projected future inventories of ROG and NO_x emissions in Placer County. The future inventories reflect future growth rates of population, travel, employment, industrial/commercial activities, and energy use, as well as control imposed through local, state, and federal emission reduction measures. The triennial report discusses rules that the PCAPCD has adopted during the previous 3 years, incentive programs that have been implemented, and other measures that would supplement those in the Ozone Attainment Plan to achieve the required 5% per year reduction required by the CCAA.

PCAPCD Rules and Regulations

Appendices B and D of the PCAPCD CEQA Air Quality Handbook include an all-inclusive list of rules and regulations required for all projects. In addition, a complete listing of all PCAPCD rules and regulations can be found at http://www.placer.ca.gov/Departments/Air/Rules.aspx. Each lead agency is responsible for compliance with the rules and regulations, whether requiring implementation through mitigation, conditions of approval, or standard notes on improvement plans, grading plans, or design review permits.

A general summary of the key PCAPCD rules and regulations is presented below.

<u>Rule 202 – Visible Emissions</u>

Rule 202 restricts discharging into the atmosphere emissions of any single source of air contaminant for a period(s) of more than 3 minutes in any 1 hour that is a certain shade of darkness or is of such opacity as to obscure an observer's view to a certain degree.

<u>Rule 217 – Cutback and Emulsified Asphalt Paving Materials</u>

Rule 217 restricts discharging into the atmosphere volatile organic compounds (VOCs) caused by the use of manufacture of cutback or emulsified asphalts for paving, road construction, or road maintenance, unless such manufacture or use complies with the provisions of Rule 217.

<u>Rule 218 – Architectural Coatings</u>

Rule 218 is intended to limit the quantity of VOCs in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the PCAPCD area.

Rule 225 – Wood-Burning Appliances

Rule 225 is intended to limit emissions of particulate matter entering the atmosphere from the operation of a wood-burning appliance.

Rule 228 – Fugitive Dust

Rule 228 is intended to reduce the amount of particulate matter entrained in the ambient air, or discharged into the ambient air, as a result of anthropogenic (man-made) fugitive dust sources by requiring actions to prevent, reduce, or mitigate fugitive dust emissions. The provisions of Rule 228 apply to any activity or man-made condition capable of generating fugitive dust within Placer County.

Rule 246 – Natural Gas-Fired Water Heaters

Rule 246 is intended to limit the emission of NO_x from natural-gas-fired water heaters.

Regulation 3 – Open Burning

Regulation 3 includes Rules 301 through 306 related to smoke management for various land uses including agricultural uses, residential uses, and disposal sites. Regulation 3 is intended to reduce emissions of TACs from smoke from allowed outdoor burning.

Rule 501 – General Permit Requirements

Rule 501 provides an orderly procedure for the review of new sources of air pollution, and modification and operation of existing sources, through the issuance of permits.

City of Roseville General Plan

The City of Roseville General Plan (City of Roseville 2013) provides goals and policies adopted by the City Council to help guide the direction of city development. The following are applicable goals from the updated Air Quality and Climate Change Element of the City of Roseville General Plan:

Goal 1 Improve Roseville's Air Quality by: a) achieving and maintaining ambient air quality standards established by the U.S. Environmental Protection Agency and the California Air Resources Board; and b) minimizing public exposure to toxic or hazardous air pollutants and air pollutants that create a public nuisance through irritation to the senses (such as unpleasant odors).

Goal 2 Integrate air quality planning with the land use and transportation planning process.

Goal 3 Encourage the coordination and integration of all forms of public transport while reducing motor vehicle emissions through a decrease in the average daily trips and vehicle miles traveled and by increasing the commute vehicle occupancy rate by 50% to 1.5 or more persons per vehicle.

Goal 5 Provide adequate pedestrian and bikeway facilities for present and future transportation needs.

Goal 7 While recognizing that the automobile is the primary form of transportation, the City of Roseville should make a commitment to shift from the automobile to other modes of transportation.

The following are applicable policies from the Air Quality and Climate Change Element of the City of Roseville General Plan:

General

Policy 2: Work with the Placer County Air Pollution Control District to monitor air pollutants of concern on a continuous basis.

Policy 3: Develop consistent and accurate procedures for evaluating the air quality impacts of new projects.

Policy 4: As part of the development review process, develop mitigation measures to minimize stationary and area source emissions.

Transportation- and Circulation-Related

Policy 6: Develop consistent and accurate procedures for mitigating transportation emissions from new and existing projects.

Policy 7: Encourage alternative modes of transportation including pedestrian, bicycle, and transit usage.

Energy Conservation-Related

Policy 10: Conserve energy and reduce air emissions by encouraging energy-efficient building designs and transportation systems.

4.2.4 Impacts

Air quality impacts fall into two categories: short-term emissions due to construction and long-term impacts due to project operation. Impacts in each category can be classified as

having effects on a regional or local scale. A technical study prepared by Raney Planning & Management Inc., included in Appendix C to this Draft EIR, is the basis for the following analysis. City staff reviewed and commented on earlier versions of that analysis, which in its final form therefore reflects the City's independent judgment.

Methods of Analysis

The discussion below presents the methodologies used to conduct the air quality analysis, as well as to assess the significance of the identified impacts within this section.

Construction-Related and Operational Emissions

The proposed project's short-term construction-related and long-term operational emissions were estimated using the California Emissions Estimator Model (CalEEMod) software, a statewide model designed to provide a uniform platform for government agencies, land use planners, and environmental professionals to quantify air quality emissions from land use projects. The model applies inherent default values for various land uses, including trip generation rates based on the Institute of Transportation Engineers *Trip Generation Manual* (ITE 2008), vehicle mix, trip length, average speed, etc. However, where project-specific data was available, such data were input into the model (e.g., construction phases and timing, estimated daily project trips). It should be noted that the default load factors for construction equipment were modified according to the CARB 2011 Inventory Model for In-Use Off-Road Equipment (CARB's adjusted off-road construction equipment load factors are included on page 89 of 155 in Appendix A of the Air Quality Report included in Appendix C). All project modeling results are included as an appendix to the technical study prepared by Raney Planning & Management Inc. (Appendix C to this Draft EIR).

Toxic Air Contaminants

To evaluate the potential effects on sensitive receptors, the land use siting recommendations in the CARB *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB 2005) were utilized. The *Air Quality and Land Use Handbook* provides recommendations for siting new sensitive land uses near sources typically associated with significant levels of TAC emissions, including, but not limited to, freeways and high-traffic roads, distribution centers, and rail yards. As stated in the *Air Quality and Land Use Handbook*, "These [land use siting] recommendations are advisory. Land use agencies have to balance other considerations, including housing and transportation needs, economic development priorities, and other quality of life issues." However, they can be used to evaluate whether the siting of a sensitive receptor could result in adverse health effects.

Thresholds of Significance

Consistent with Appendix G of the CEQA Guidelines, the City's General Plan, and professional judgment, an air quality impact is considered significant if implementation of the proposed project would do any of the following:

- Conflict with or obstruct implementation of the applicable air quality plan (i.e., the Ozone Attainment Plan);
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation (i.e., exceed 82 lbs/day of ROG, NO_x, or PM_{10} or 550 lbs/day of CO);
- Expose sensitive receptors to substantial pollutant concentrations (e.g., generate localized concentrations of CO that exceed the 1-hour 20 ppm or the 8-hour 9 ppm AAQS or substantial concentrations of toxic air contaminants);
- Create objectionable odors affecting a substantial number of people; or
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable AAQS (including releasing emissions which exceed quantitative thresholds for ozone precursors of 10 lbs/day of ROG or NO_x).

Impact 4.2-1	Conflict with Applicable Air Quality Plan
Applicable Policies and Regulations	Ozone Attainment Plan PCAPCD Rules and Regulations
Significance with Policies and Regulations	Less than significant
Mitigation Measures	None required
Significance after Mitigation	Less than significant

The proposed project site is under the jurisdiction of the PCAPCD within the SVAB, which is designated nonattainment for both the federal and state ozone standards. Accordingly, the PCAPCD, along with other local air districts in the SVAB, is required to comply with and implement the SIP, and, along with the other air districts in the region, has prepared an Ozone Attainment Plan (PCAPCD 2008), adopted February 19, 2009. The CARB determined that the Ozone Attainment Plan meets CAA requirements and approved the plan on March 26, 2009, as a revision to the SIP. The PCAPCD has also adopted triennial progress reports as required by the CCAA, the most recent of which is the *2009 Triennial Progress Report*. Accordingly, the Ozone Attainment Plan, for federal planning purposes, and the 2009 Triennial Progress Report, for state planning purposes, are the applicable air quality plans for the proposed project site.

The air quality plans demonstrate how existing and new control strategies would provide the necessary future emission reductions to meet the federal and state air quality planning

requirements. Adoption of all reasonably available control measures is required for attainment. Measures could include, but are not limited to, the following: regional mobile incentive programs, urban forest development programs, and local regulatory measures for emission reductions related to architectural coatings, automotive refinishing, natural gas production and processing, asphalt (paving), installing concrete, and various others.

A project would be considered to conflict with, or obstruct implementation of, an air quality plan if the project would be inconsistent with the emissions inventories contained in the plan and/or result in emissions that exceed the applicable thresholds of significance. The emission inventories for ROG and NO_x were developed based on projected increases in population growth and vehicle miles traveled within the region.

The project does not involve a change in the land use designation for the site, but does involve a modification in the anticipated use of the site. The project site is currently designated for commercial uses open to the public; however, the proposed project would be open to the public on a members-only basis. As such, the estimated vehicle trips generated by the proposed project would be less than what has been anticipated for the site in the Stoneridge Specific Plan (SSP) EIR, according to traffic data prepared by the City of Roseville Public Works Department. Based on the allowed uses for the project site under the SSP, an estimated 8,096 daily vehicle trips and 703 PM peak hour trips are anticipated (see Appendix B of the technical study prepared by Raney Planning & Management Inc. included as Appendix C of this Draft EIR)). It should be noted that a project-specific transportation impact study has also been prepared for the proposed project by Fehr & Peers (Appendix E of this Draft EIR). According to the transportation impact study, the proposed project is estimated to generate 4,460 daily vehicle trips with 482 PM peak hour trips and 360 AM peak hour trips, which is approximately 45% fewer daily vehicle trips and over 30% less PM peak hour trips than were estimated for the site based on the allowed uses.

Emissions inventories within the air quality plans were determined based on allowed uses; thus, the emissions related to the proposed project would be less than estimated and included in the emissions inventories. It should be noted that construction-related emissions associated with the proposed project would be consistent with what was included in emissions inventories for the site, as the same assumptions for construction activities and area of disturbance would occur. Therefore, the project would result in a reduction of the anticipated emissions associated with the site and would not conflict with the emissions inventories of the Ozone Attainment Plan. In addition, the PCAPCD's permits, rules, and regulations are in compliance with the plan, and the proposed project is required to comply with all PCAPCD rules and regulations.

General conformity requirements of the Ozone Attainment Plan include whether a project would cause or contribute to new violations of any NAAQS, increase the frequency or severity of an existing violation of any NAAQS, or delay timely attainment of any NAAQS. As discussed in this analysis, the proposed project would not result in construction and operational emissions that

exceed the PCAPCD's thresholds of significance. Thus, the project would not cause or contribute to new violations of any NAAQS, increase the frequency or severity of an existing violation of any NAAQS, or delay timely attainment of any NAAQS. Consequently, the project would not obstruct implementation and would comply with the requirements of the Ozone Attainment Plan.

Because the proposed project would be consistent with the emissions inventories contained in the regional air quality plan and would not result in emissions that exceed the PCAPCD thresholds of significance, the project would not conflict with or obstruct implementation of the applicable air quality plan, and impacts would be considered **less than significant**.

Impact 4.2-2	Violate the PCAPCD Standards for Air Quality
Applicable Policies and Regulations	PCAPCD Rules 202, 217, 218, 225, 228, 246, and 501 and Regulation 3
Significance with Policies and Regulations	Potentially significant (project construction)
Mitigation Measures	Mitigation Measure 4.2-2(a)
Significance after Mitigation	Less than significant

The City of Roseville, as lead agency, uses the PCAPCD's recommended thresholds to evaluate under CEQA the significance of air quality impacts associated with proposed development projects. Thus, if the proposed project's emissions exceed the PCAPCD thresholds of significance (listed in Table 4.2-5), the project could have a significant effect on regional air quality.

Construction and operation of the proposed project would contribute to increases of ROG, NO_x, PM_{10}, and CO emissions in the area, as discussed below.

Construction Emissions

During construction of the project, various types of equipment and vehicles would temporarily operate on the project site. Construction exhaust emissions would be generated from construction equipment, vegetation clearing and earth movement activities, construction workers' commutes, and construction material hauling for the entire construction period. The aforementioned activities would involve the use of diesel- and gasoline-powered equipment that would generate emissions of criteria pollutants. Project construction activities also represent sources of fugitive dust, which includes PM_{10} emissions. As construction of the proposed project would generate air pollutant emissions intermittently on site and in the vicinity of the site until all construction has been completed, construction is a potential concern with regard to air quality impacts because the proposed project is in a nonattainment area for ozone and PM_{10}.

The project is required to comply with all PCAPCD rules and regulations for construction, including the following, which shall be noted on City-approved construction plans:

- Rule 202 related to visible emissions

- Rule 217 related to asphalt paving
- Rule 218 related to architectural coatings
- Rule 228 related to fugitive dust
- Regulation 3 related to open burning.

As shown in Table 4.2-5, the PCAPCD project-specific threshold of significance for construction is 82 lbs/day for ROG, NO_x, and PM_{10} and 550 lbs/day for CO. Table 4.2-6 presents the estimated construction-related emissions of ROG, NO_x, PM_{10}, and CO resulting from the project. In accordance with PCAPCD rules and regulations, the project would use only low-VOC paints (required to be manually selected within the model). It should be noted that all other PCAPCD rules and regulations are considered by the model, as applicable.

Table 4.2-6
Maximum Unmitigated Project Construction-Related Emissions

Pollutant	Project Emissions (lb/day)	PCAPCD Significance Threshold (lb/day)
ROG	43.31	82.0
NO_x	88.14	82.0
PM_{10}	11.32	82.0
CO	51.26	550.0

Source: CalEEMod 2013.

Operational Emissions

Operational emissions of ROG, NO_x, CO, and PM_{10} would be generated by the proposed project from both mobile and stationary sources. Day-to-day activities such as future employee and patron vehicle trips to and from the project site would make up the majority of the mobile emissions. Emissions would occur from area sources such as natural gas combustion from heating mechanisms, landscape maintenance equipment exhaust, and consumer products (e.g., deodorants, cleaning products, spray paint).

As stated above, the project is required to comply with all PCAPCD rules and regulations, such as those listed previously for construction, as well as the following for operations:

- Rule 225 related to wood-burning appliances
- Rule 501 related to stationary sources or processes
- Rule 246 related to water heaters.

As noted above, the project would use only low-VOC paints, in accordance with PCAPCD rules and regulations. However, the modeling does include inherent sustainability features of the project's design, including the project's creation of new jobs in the area, the site's proximity to

the nearest transit station, which is located at the project entrance along Secret Ravine Parkway, and the improved pedestrian network within the project site (a list of project features assumed in the modeling is included on page 90 in Appendix A of the air quality report (see Appendix C of this Draft EIR)). The estimated operational emissions for the proposed project are presented in Table 4.2-7.

Table 4.2-7
Unmitigated Project Operational Emissions

Pollutant	Project Emissions (lbs/day)	PCAPCD Significance Threshold (lbs/day)
ROG	31.65	82.0
NO_x	53.27	82.0
PM_{10}	20.81	82.0
CO	137.08	550.0

Source: CalEEMod 2013.

As shown in the table, the project's operational emissions would be below the PCAPCD project-specific thresholds of significance. Thus, the proposed project would not substantially contribute to the region's nonattainment status of ozone or PM. Accordingly, project operation would not violate any air quality standard or contribute substantially to an existing or projected air quality violation, and the project's operational impact would be less than significant.

The proposed project's operational emissions would be below the applicable project-specific thresholds of significance, as discussed above. The project would comply with all applicable PCAPCD rules and regulations. However, because the proposed project's construction-related NO_x emissions could violate an air quality standard or contribute to an existing or projected air quality violation, this impact would be considered **potentially significant**.

Impact 4.2-3	Expose Sensitive Receptors to Substantial Pollution Concentrations
Applicable Policies and Regulations	CARB Land Use Handbook
Significance with Policies and Regulations	Less than significant
Mitigation Measures	None required
Significance after Mitigation	Less than significant

The proposed project includes the development of a new fitness center on a vacant lot surrounded by existing development, including nearby residences. As discussed under Impact 4.2-2, CO emissions were determined to be below the significance thresholds during both construction and operation of the proposed project. Emissions of CO result from the incomplete combustion of carbon-containing fuels such as gasoline or wood and are particularly related to

traffic levels. As older, more polluting vehicles are retired and replaced with newer, cleaner vehicles, the overall rate of CO emissions for the vehicle fleet throughout the state has been, and is expected to continue, decreasing. Therefore, emissions of CO would likely decrease from the levels presented in Table 4.2-7 over the lifetime of the project. The surrounding area roadway network would support project traffic and, according to the transportation impact study prepared for the project (see Appendix E), implementation of the project would not cause any unacceptable levels of service on any nearby roadways or intersections. Thus, substantial levels of CO at surrounding intersections are not expected to occur and the project would not generate localized concentrations of CO that would exceed standards.

TACs are a category of environmental concern as well. As indicated above, the CARB *Air Quality and Land Use Handbook* is used to qualitatively evaluate the potential for adverse health effects. CARB has identified diesel particulate matter (DPM) from diesel-fueled engines as a TAC; thus, freeways and high-traffic roads, stationary diesel engines, and facilities attracting heavy and constant diesel vehicle traffic are identified as having the highest associated health risks from DPM. Health risks from TACs are a function of both the concentration of emissions and the duration of exposure. Health-related risks associated with DPM in particular are primarily associated with long-term exposure and associated risk of contracting cancer.

The project does not involve long-term operation of any stationary diesel engines or other major on-site stationary source of TACs. The CARB *Air Quality and Land Use Handbook* includes distribution centers with associated diesel truck trips of more than 100 trucks per day as a source of substantial TAC emissions. Relatively very few vehicle trips associated with the proposed commercial uses would be expected to be composed of diesel-fueled vehicles, and would not involve diesel truck trips in excess of 100 per day. In addition, emissions of DPM resulting from construction-related equipment and vehicles are minimal and temporary, affecting a given receptor for a period of days or weeks.

The project site is located over half a mile (more than 3,000 feet) east of the Union Pacific Railroad tracks on the opposite side of I-80. The tracks are used solely for passing trains that do not idle at that location. Due to the lack of idling trains, the CARB does not consider tracks to be a significant source of TAC emissions; however, rail yards are considered a significant source of TACs by the CARB due to the substantial number of trains and amount of idling. The CARB recommends a setback of 1,000 feet from a major rail yard, as well as other limitations and mitigation approaches for sensitive land uses within 1 mile. The project site is located over 2 miles northeast of the nearest rail yard and is outside the area where DPM associated with the rail yard emissions would create a health concern. Therefore, the project would not be affected by DPM emissions associated with a rail yard.

In order to evaluate the risks associated with exposure of on-site sensitive receptors to DPM from I-80 traffic, which is located west of the project site, the CARB, per its Air Quality and Land Use Handbook, recommends the evaluation of emissions when freeways and other high-traffic roads (e.g., urban roads with 100,000 vehicles per day or greater) are within 500 feet of sensitive receptors. Any project placing sensitive receptors within 500 feet of a major roadway or freeway may have the potential to expose residents to TACs. The project is located more than 2,000 feet from the edge of the nearest travel lane on I-80. No local roads near the project site have average daily traffic levels exceeding 100,000 vehicles per day (Fehr & Peers 2013). Consequently, the proposed project would not be expected to expose any sensitive receptors to a significant increase in individual cancer risk from DPM, and a detailed, site-specific health risk assessment is not warranted.

Because the proposed project is located beyond the CARB-recommended setbacks from rail yards (1,000 feet) and freeways (500 feet), and nearby existing sensitive receptors would not be exposed to significant levels of pollutant concentrations as a result of the proposed project, impacts related to substantial pollutant exposure to sensitive receptors would be **less than significant.**

Impact 4.2-4	Create Objectionable Odors Affecting a Substantial Number of People
Applicable Policies and Regulations	None applicable
Significance with Policies and Regulations	Less than significant
Mitigation Measures	None required
Significance after Mitigation	Less than significant

Typical odor sources include industrial or intensive agricultural uses. Diesel fumes from construction equipment and delivery trucks are often found to be objectionable; however, construction is temporary and diesel emissions would be minimal and regulated. Emissions of DPM from the nearby freeway could result in objectionable odors; however, as presented above, the buffer between the project site and the freeway would be sufficient to avoid high concentrations of DPM. As stated previously, the nearby Union Pacific Railroad tracks are not a significance source of DPM, and the rail yards, which are considered a significant source of TACs due to idling, are located over 2 miles from the project site. Accordingly, odors due to DPM from the rail yards would not affect any people at the project site. Thus, odors related to DPM would not be expected to be considerable or affect a substantial number of people.

The proposed project's commercial fitness center uses are not typically associated with the creation of objectionable odors. The project includes the Life Café, an on-site bistro, which would produce food waste. Decomposition of biological materials, such as food waste and other

trash, could create objectionable odors if not properly contained and handled. The project site would provide adequate waste receptacles throughout the facility and would use outdoor trash dumpsters with plastic flip-top lids, which would be picked up daily.

For the reasons noted above, construction and operation of the proposed project would not create objectionable odors, nor would the project site be affected by any existing objectionable odors; therefore, the impact would be **less than significant**.

4.2.5 Cumulative Impacts

The geographic scope of the area for the proposed project cumulative analysis includes the City of Roseville and surrounding areas within the Sacramento Federal Nonattainment Area for ozone. As indicated in the PCAPCD *CEQA Air Quality Handbook*, "It is very important to emphasize that the primary reason the District applies a '10 lbs per day' standard as the threshold for a project's cumulative impacts resulting from its ROG and NO_x emissions is because Placer County lies within the federal ozone nonattainment area." Because the 10 lb/day threshold for ROG and NO_x is used in this analysis, the Sacramento Federal Nonattainment Area is the appropriate geographic scope for the cumulative analysis. The Sacramento Federal Nonattainment Area includes the counties of Sacramento, Yolo, Solano (partial), Sutter (partial), Placer (except Lake Tahoe Air Basin), and El Dorado (except Lake Tahoe Air Basin). The PCAPCD establishes emissions thresholds for regional emissions, and is one of the few air districts in the state that also recommends cumulative emission thresholds.

Impact 4.2-5	Result in the Cumulatively Considerable Net Increase in Criteria Pollutants
Applicable policies and regulations	None applicable
Significance with policies and regulations	Potentially significant
Mitigation measures	Mitigation Measures 4.2-5(a), 4.2-5(b), and 4.2-5(c)
Significance after mitigation	Less than significant

The project site is located in an ozone nonattainment area. In order to improve air quality and attain the health-based standards, reductions in emissions are necessary within nonattainment areas. The project is part of a pattern of urbanization occurring in the greater Sacramento ozone nonattainment area. The growth and combined population, vehicle usage, and business activity within the nonattainment area from the project, in combination with other past, present, and reasonably foreseeable projects within the City of Roseville and surrounding areas, could either delay attainment of the standards or require the adoption of additional controls on existing and future air pollution sources to offset emission increases. Thus, the

project could cumulatively contribute to regional air quality health effects through emissions of criteria and mobile source air pollutants.

The City, as lead agency with the discretion as to how to define significant impacts, generally does not follow the PCAPCD's approach to assessing cumulative air quality effects, but rather prefers to rely on the two-tier criteria pollutant cumulative analysis methodology similar to that adopted by the Sacramento Metropolitan Air Quality Management District (SMAQMD), as outlined in the SMAQMD *Guide to Air Quality Assessment in Sacramento County* (2011). That is, if a project would not exceed the PCAPCD-recommended project-level thresholds for ROG or NO_x, project emissions would not be considered cumulatively considerable. If emissions exceed the thresholds, further analysis or a Tier 2 evaluation is conducted. However, for this project, the City, at the applicant's request, has chosen to use the PCAPCD's suggested cumulative threshold of significance for the proposed project's analysis, as this approach is more conservative (i.e., lower triggers are used for finding significant cumulative impacts).

To aid in determining an individual project's cumulative contribution to regional air quality, the PCAPCD suggests a cumulative threshold of significance for operational emissions of 10 lb/day for ROG and NO_x. Although a cumulative threshold, the threshold is applied to project-level emissions. In other words, an increase of more than 10 lb/day of ROG and/or NO_x (ozone precursors) during project operations would exceed the cumulative threshold of significance.

The proposed project's cumulative contribution to regional emissions of ROG and NO_x is presented in Table 4.2-8.

Table 4.2-8
Project Operational Emissions for Cumulative Consideration

Pollutant	Project Emissions (lb/day)	PCAPCD Significance Threshold (lb/day)
ROG	31.65	10.0
NO_x	53.27	10.0

Source: CalEEMod 2013.

As shown in the table, the proposed project's operational emissions of ROG and NO_x would exceed the PCAPCD-recommended cumulative thresholds of significance. This impact is considered **potentially significant.**

In addition to ozone, the project area is also designated nonattainment for the state PM_{10} and federal 24-hour $PM_{2.5}$ standards. However, cumulative thresholds of significance for PM_{10}, $PM_{2.5}$, or any other pollutant emissions have not been established by the PCAPCD or the City of Roseville. In the absence of established thresholds of significance, the City, as the lead agency, has chosen to rely on the two-tier cumulative analysis methodology discussed above for the

analysis of cumulative PM_{10} and $PM_{2.5}$, where if a project would not exceed the PCAPCD-recommended project-level thresholds, project emissions would not be considered cumulatively considerable (similar to other air districts in the SVAB). Due to the lack of an established project-level threshold for $PM_{2.5}$ and because $PM_{2.5}$ emissions are essentially a portion of the total PM_{10} emissions attributable to the smaller particle size, the project-level PM_{10} threshold of 82 lb/day is used for the cumulative analysis of both PM_{10} and $PM_{2.5}$. According to the CalEEMod results for the proposed project, the proposed project would result in PM_{10} emissions of 20.81 lb/day (as shown in Table 4.2-7) and $PM_{2.5}$ emissions of 1.8 lb/day, which are both below the recommended project-level threshold. Even if one were to consider the emissions of PM_{10} and $PM_{2.5}$ together, for a total of 22.61 lbs/day of PM emissions, the total PM emissions would still be below the recommended project-level threshold. Therefore, according to the City's two-tier cumulative analysis approach, the project would not result in cumulatively considerable PM emissions, and further analysis or a Tier 2 evaluation is not required. This impact is considered **less than significant**.

4.2.6 Mitigation Measures

To mitigate Impact 4.2-2, Mitigation Measure 4.2-2(a) would require the applicant to submit written calculations for approval to the City Engineer demonstrating that heavy-duty, off-road vehicles to be used in construction of the project shall achieve a project-wide fleet-average of 20% of NO_x reduction as compared to CARB's statewide fleet average emissions. Implementation of Mitigation Measure 4.2-2(a) would reduce the proposed project's construction NO_x emissions from 88.14 to 70.51 pounds per day, which would be below the applicable PCAPCD's project-specific threshold of 82 pounds per day and would reduce the impact to a less-than-significant level.

4.2-2(a) Prior to approval of any grading or improvement plans, whichever occurs first, the applicant shall provide a written calculation to the City Engineer for approval demonstrating that heavy-duty (greater than 50 horsepower) off-road vehicles to be used in the construction of the project, including owned, leased, and subcontractor vehicles, shall achieve a project-wide fleet-average of 20% of NO_x reduction as compared to CARB statewide fleet average emissions. Acceptable options for reducing emissions may include use of late-model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, and/or other options as they become available. The Construction Emissions Mitigation calculator (available at *www.airquality.org/ceqa/ConstructionEmissionsMitigationCalculator_v6_2012 Jan.xls*) shall be used to calculate compliance with this mitigation measure.

To mitigate Impact 4.2-5, Mitigation Measure 4.2-5(a) requires that the project exceed Title 24 by 10% and apply a water conservation strategy that would result in a 44.19% reduction in total water usage. Mitigation Measure 4.2-5(b) would require the use of only low-volatile organic compound cleaning products during project operations. Implementation of Mitigation Measures 4.2-5(a) and 4.2-5(b) would reduce the proposed project's operational reactive organic gas and NO_x emissions from 31.65 and 53.27 pounds per day, respectively, to 30.72 and 52.89 pounds per day, respectively, but emissions would still exceed the PCAPCD's recommended cumulative thresholds of significance.

Implementation of Mitigation Measure 4.2-5(c) would further reduce the project's emissions through the PCAPCD's Off-Site Air Quality Mitigation Fund, which supports fleet modernizations, repowers, retrofits, and fleet expansions of heavy-duty on- and off-road mobile vehicles/equipment; alternative fuels infrastructure or low-emission fuel purchases; new or expanding alternative transit service programs; light-duty low-emission vehicle programs; public education; repower of agricultural pump engines; and other beneficial air quality projects. Mitigation fees collected from land use developments by the PCAPCD are distributed through the PCAPCD's annual Clean Air Grant Program, which funds emission reduction projects and the aforementioned programs.

The fee rate is based on the cost-effectiveness factor updated by the latest CARB Carl Moyer Program Guideline. Cost effectiveness is a measure of the dollars provided for each ton of covered emission reductions, which CARB may adjust to reflect emission reduction market conditions. The current rate for the PCAPCD's off-site mitigation fee calculation is $17,080 per ton of ozone precursor emissions (ROG or NO_x), effective January 1, 2013.

Through providing an in-lieu fee toward the funding of the PCAPCD's programs, the proposed project's cumulative ROG and NO_x emissions would be reduced further from 30.72 and 52.89 pounds per day, respectively, to the PCAPCD's cumulative threshold of 10 pounds per day. The cumulative mitigation fee amount stated in Mitigation Measure 4.2-5(c) is the fee required to reduce the project's contribution to cumulative emissions (see Appendix C of this Draft EIR) for the off-site mitigation fee calculation. With implementation of Mitigation Measures 4.2-5(a), 4.2-5(b), and 4.2-5(c), the project's operational emissions would not exceed the PCAPCD cumulative thresholds or the City's threshold, and the cumulative impact would be reduced to a less-than-significant level.

4.2-5(a) Prior to final map approval, the project applicant shall provide calculations to the City Engineer showing that the project would accomplish the following:

- Exceed Title 24 by 10%.

- Apply a water conservation strategy that would result in a 44.19% reduction in total water usage.

4.2-5(b) During project operations, the project operator shall ensure that only low volatile organic compound cleaning products are used on site, subject to inspection by the City.

4.2-5(c) Prior to issuance of building permits, the project applicant shall pay its air quality fair-share off-site mitigation fee sufficient to reduce the project's reactive organic gas and NO_x (nitrogen oxide gas) operational emissions to 10 pounds per day (estimated to be approximately $98,893),[1] for the review and approval of the PCAPCD and the City of Roseville Planning Department.

Or

Prior to issuance of building permits, the project applicant shall develop and propose an off-site mitigation project (equivalent to the emission reductions required for the proposed project to meet PCAPCD thresholds of significance), subject to review and approval by the City of Roseville Planning Department after consultation with the PCAPCD. The applicant must provide proof that the off-site mitigation project would reduce emissions at an equivalent amount as would be required of the proposed project.

4.2.7 Sources

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[1] The off-site mitigation fee for cumulative reactive organic gas and NO_x (nitrogen oxide gas) emissions was determined using the Placer County Air Pollution Control District's fee calculation spreadsheet, which is based on yearly project emissions in excess of the district's cumulative thresholds. Please refer to Appendix C of the *Air Quality Impact and Greenhouse Gas Analysis* technical report (Appendix C of this Draft EIR) for detailed calculations.

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