3.4 AIR QUALITY

This section includes a summary of applicable air quality regulations, a discussion of existing air quality conditions, and an analysis of potential short- and long-term air quality impacts that could result from implementation of the project. The methods of analysis for short-term construction, long-term regional (operational), local mobile-source, and toxic air emissions and odors are consistent with the guidance from the Placer County Air Pollution Control District (PCAPCD), the California Air Resources Board (CARB), and the US Environmental Protection Agency (EPA). Mitigation measures are proposed as necessary to reduce significant air quality impacts.

Several comments regarding air quality were received in response to the notice of preparation (see Appendix A). PCAPCD suggested that the project not include wood-burning appliances within any residential or commercial units associated with the project and requested that emissions of air pollutants and air toxics to the adjacent residential areas be discussed. Placer County Department of Public Works commented requesting that the potential for odors associated with the force main be addressed. Another commenter requested that the EIR identify the potential health impacts from long-term exposure to traffic-related air pollutants and diesel particulate matter. To assess potential health effects from the project, a health risk assessment (HRA) was conducted, which evaluates project construction and operations. The results of the HRA are summarized in Impact 3.4-4 and detailed inputs and outputs are included in Appendix B.

3.4.1 Regulatory Setting

Air quality in the project area is regulated through the efforts of various federal, State, regional, and local government agencies. These agencies work jointly, as well as individually, to improve air quality through legislation, planning, policymaking, education, and a variety of programs. The agencies responsible for improving the air quality within the air basins are discussed below.

FEDERAL

US Environmental Protection Agency

EPA has been charged with implementing national air quality programs. EPA's air quality mandates draw primarily from the federal Clean Air Act (CAA), which was enacted in 1970, and the most recent major amendments made by Congress in 1990. EPA's air quality efforts address both criteria air pollutants and hazardous air pollutants (HAPs). EPA regulations concerning criteria air pollutants and HAPs are presented in greater detail below.

Criteria Air Pollutants

The CAA, 43 US Code Section 7401 et seq. (1970), is the comprehensive federal law that regulates air emissions from stationary and mobile sources. It's intended to reduce and control air pollution nationally with major amendments in 1977 and 1990. The CAA defines EPA's responsibilities for protecting and improving the nation's air quality and the stratospheric ozone layer.

The CAA, in sections 108 and 109, requires EPA to establish National Ambient Air Quality Standards (NAAQS) for common air pollutants referred to as criteria air pollutants. These are common in outdoor air, considered harmful to public health and the environment, and originate from numerous and diverse sources. EPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter (PM) with aerodynamic diameter of 10 micrometers or less (PM_{10}) and fine particulate matter with aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. The NAAQS are shown in Table 3.4-1. The primary standards protect public health, and the secondary standards protect public welfare.

Table 3.4-1 National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California (CAAQS)[a,b]	National (NAAQS)[c]	
			Primary[b,d]	Secondary[b,e]
Ozone	1-hour	0.09 ppm (180 µg/m^3)	–[e]	Same as primary standard
	8-hour	0.070 ppm (137 µg/m^3)	0.070 ppm (147 µg/m^3)	
Carbon monoxide (CO)	1-hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	Same as primary standard
	8-hour	9 ppm[f] (10 mg/m^3)	9 ppm (10 mg/m^3)	
Nitrogen dioxide (NO_2)	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	53 ppb (100 µg/m^3)	Same as primary standard
	1-hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	—
Sulfur dioxide (SO_2)	24-hour	0.04 ppm (105 µg/m^3)	—	—
	3-hour	—	—	0.5 ppm (1300 µg/m^3)
	1-hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	—
Respirable particulate matter (PM_{10})	Annual arithmetic mean	20 µg/m^3	—	Same as primary standard
	24-hour	50 µg/m^3	150 µg/m^3	
Fine particulate matter ($PM_{2.5}$)	Annual arithmetic mean	12 µg/m^3	9.0 µg/m^3	15.0 µg/m^3
	24-hour	—	35 µg/m^3	Same as primary standard
Lead [f]	Calendar quarter	—	1.5 µg/m^3	Same as primary standard
	30-Day average	1.5 µg/m^3	—	—
	Rolling 3-Month Average	–	0.15 µg/m^3	Same as primary standard
Hydrogen sulfide	1-hour	0.03 ppm (42 µg/m^3)	No national standards	
Sulfates	24-hour	25 µg/m^3		
Vinyl chloride [f]	24-hour	0.01 ppm (26 µg/m^3)		
Visibility-reducing particulate matter	8-hour	Extinction of 0.23 per km		

Notes: CAAQS = California ambient air quality standards; NAAQS = national ambient air quality standards; µg/m^3 = micrograms per cubic meter; km = kilometers; ppb = parts per billion; ppm = parts per million.

a California standards for ozone, carbon monoxide, SO_2 (1- and 24-hour), NO_2, particulate matter, and visibility-reducing particles are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

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

c National standards (other than ozone, particulate matter, and those based on annual averages or annual arithmetic means) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration in a year, averaged over three years, is equal to or less than the standard. The PM_{10} 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than one. The $PM_{2.5}$ 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard. Contact the US Environmental Protection Agency for further clarification and current federal policies.

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

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

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

Source: CARB 2024.

The CAA also requires each state to prepare a state implementation plan (SIP) for attaining and maintaining the NAAQS. The SIPs are developed by state and local air quality management agencies and submitted to EPA for approval (EPA 2025a). The federal Clean Air Act Amendments of 1990 (CAA Amendments) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. California's SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins as reported by their jurisdictional agencies. EPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and whether implementation will achieve air quality goals. If EPA determines a SIP to be inadequate, EPA may prepare a federal implementation plan that imposes additional control measures. If an approvable SIP is not submitted or implemented within the mandated time frame, sanctions may be applied to transportation funding and stationary air pollution sources in the air basin.

Title V of the federal CAA, as amended in 1990, created an operating permit program for certain defined sources. One of the primary Title V applicability criteria is based on the facility's potential to emit, and the emission threshold varies by the attainment status of the local area. For example, owners/operators of industrial sources that emit more than 100 tons per year (tpy) of oxides of nitrogen (NO_X) or volatile organic compounds (VOC) must possess a Title V permit. If a source is located in a federal ozone nonattainment area classified as "Serious Nonattainment," this threshold is lowered to 50 tpy. For "Severe Nonattainment" areas, the threshold is lowered to 25 tpy, and for "Extreme Nonattainment" areas, the threshold is further lowered to 10 tpy. The lowering of the thresholds results in more businesses having to comply with Title V permitting requirements in areas with worse air quality. EPA defined the basic requirements of the Title V program under the Code of Federal Regulations (CFR) Title 40 Part 70, and each air district, including PCAPCD, has adopted rules specific to their area to implement the Title V program. The PCAPCD Title V program is discussed in the "Placer County Air Pollution Control District" section, below. Title V is not meant to impose any new air pollution standards, require installation of any new controls on the affected facilities, or require emissions reductions. It does, however, enhance public and EPA participation in the permitting process and requires additional recordkeeping and reporting by businesses, which may result in additional administrative requirements.

Hazardous Air Pollutants and Toxic Air Contaminants

Toxic air contaminants (TACs), or in federal parlance, Hazardous Air Pollutants (HAPs), are a defined set of airborne pollutants that may pose a present or potential hazard to human health. Section 39655 of the California Health and Safety Code defines a TAC as an air pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air; however, their high toxicity or health risk may pose a threat to public health even at low concentrations.

A wide range of sources, from industrial plants to motor vehicles, emit TACs. The health effects associated with TACs are quite diverse and generally are assessed locally, rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage; or short-term acute effects such as eye watering, respiratory irritation (a cough), running nose, throat pain, and headaches.

For evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. This contrasts with criteria air pollutants for which acceptable levels of exposure can be determined and for which the ambient standards have been established (Table 3.4-1). Cancer risk from TACs is expressed as excess cancer cases per one million exposed individuals, typically over a lifetime of exposure.

EPA regulates HAPs through its National Emission Standards for Hazardous Air Pollutants. The standards for a particular source category require the maximum degree of emission reduction that the EPA determines to be achievable, which is known as the Maximum Achievable Control Technology—MACT standards. These standards are authorized by Section 112 of the 1970 CAA and the regulations are published in 40 CFR Parts 61 and 63.

Stationary Sources

New Source Performance Standards

New Source Performance Standards (NSPS), established under the CAA, are federal regulations designed to limit air pollution from specific industrial categories. These standards apply to newly constructed, modified, or reconstructed

facilities, requiring them to employ the best available control technology (BACT) to minimize emissions. NSPS cover a wide range of pollutants, including particulate matter, sulfur dioxide, nitrogen oxides, volatile organic compounds, and hazardous air pollutants. The specific requirements of NSPS vary depending on the industry and pollutant, but generally include emission limits, monitoring and reporting requirements, and operational and maintenance standards. By setting pollution control benchmarks for new sources, NSPS play a role in preventing the worsening of air quality and encouraging the development and implementation of cleaner technologies (EPA 2025b).

Mobile Sources

EPA has established a number of emission standards for on- and off-road heavy-duty diesel engines used in trucks and other equipment. These standards were established in part because diesel engines are a significant source of NO_X, PM_{10}, and $PM_{2.5}$ and because EPA has identified diesel particulate matter as a probable carcinogen. Implementation of the on-road heavy-duty diesel engine standards and the off-road heavy-duty diesel engine standards is estimated to reduce particulate matter and NO_X emissions from diesel engines by up to 95 percent in 2030, by which time the regulation aims to have heavy-duty vehicle fleets completely replaced with newer heavy-duty vehicles that comply with these emission standards.

In concert with the diesel engine emission standards, EPA regulations have also substantially reduced the amount of sulfur allowed in diesel fuels. The sulfur contained in diesel fuel is a significant contributor to the formation of particulate matter in diesel-fueled engine exhaust. The new standards reduced the amount of sulfur allowed by 97 percent for highway diesel fuel (from 500 parts per million by weight [ppmw] to 15 ppmw), and by 99 percent for off-highway diesel fuel (from approximately 3,000 ppmw to 15 ppmw). The low-sulfur highway fuel (15 ppmw sulfur), also called ultra-low sulfur diesel, is currently required for use by all vehicles in the United States. All the aforementioned federal diesel engine and diesel fuel requirements have been adopted by California, in some cases with modifications making the requirements more stringent or the implementation dates sooner.

STATE

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 (CCAA). The CCAA, which was adopted in 1988, required CARB to establish California Ambient Air Quality Standards (CAAQS) (Table 3.4-1).

California Ambient Air Quality Standards

Over the past 50 years, there have been hundreds of epidemiological and scientific studies published detailing the harmful effects of air pollution. Air pollution harms people's health, damages agricultural crops and forests, and creates visibility concerns. The CAAQS were developed to protect the health of the most sensitive groups. The definition of an air quality standard is the maximum amount of a pollutant averaged over a specified period that can be present in outdoor air without any harmful effects on people or the environment. In 1959, legislation was enacted in California requiring the State Department of Public Health to establish air quality standards and necessary controls for motor vehicle emissions. The CAAQS are often more stringent than national standards (NAAQS). The pollutants are as follows: particulate matter ($PM_{2.5}$ and PM_{10}), O_3, NO_2, sulfate, CO, SO_2, visibility reducing particles (haze), Pb,), and vinyl chloride. California law continues to mandate CAAQS, although the attainment of the NAAQS has precedence due to federal penalties for failure to meet federal attainment deadlines. California law does not require that CAAQS be met by specified dates as in the case with NAAQS, rather it requires incremental progress towards attainment (CARB 2025a).

Air Toxics Hot Spots Program

The Air Toxics "Hot Spots" Information and Assessment Act (Assembly Bill [AB] 2588), established in 1987, is a California program designed to identify and mitigate localized sources of toxic air pollution. The program mandates that facilities emitting significant amounts of TACs report their emissions to relevant air districts. These districts then assess the health risks associated with these emissions, focusing on areas with elevated cancer risk or potential for other adverse health effects. If significant risks are identified, the facility is designated a "hot spot" and is required to notify the surrounding community. This notification empowers the public with information about potential health

risks and allows them to engage in decision-making processes regarding risk reduction. In addition, facilities identified as hot spots must conduct further risk assessments and develop plans to reduce their emissions to acceptable levels. This multi-step process aims to protect public health by identifying and mitigating sources of toxic air pollution, promoting transparency, and encouraging community involvement in air quality management (CARB 2025b).

Criteria Air Pollutants

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

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

Toxic Air Contaminants

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) and the Air Toxics Hot Spots Information and Assessment Act of 1987 (AB 2588, Chapter 1252, Statutes of 1987). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. Research, public participation, and scientific peer review are required before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and adopted EPA's list of HAPs as TACs. In 1998, PM exhaust from diesel engines (diesel PM) was identified and was also added to CARB's list of TACs.

After a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If a safe threshold exists for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If no safe threshold exists, the measure must incorporate best available control technology for toxics to minimize emissions.

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

The emissions from on-road mobile sources, specifically, heavy-duty trucks contribute a disproportionate amount of diesel PM emissions compared to passenger vehicles. Emissions from on-road mobile sources are regulated at the state and federal levels, and therefore, are outside of the control of the project and also local agencies such as the City and PCAPCD. For example, EPA is working closely with engine and vehicle manufacturers, and other interested parties to identify programs that will reduce emissions from heavy-duty diesel vehicles in California.

CARB has adopted diesel exhaust control measures and more stringent emissions standards for various transportation-related mobile sources of emissions, including transit buses, and off-road diesel equipment (e.g., tractors, generators). Over time, the replacement of older vehicles will result in a vehicle fleet that produces substantially lower levels of TACs than under current conditions. Mobile-source emissions of TACs (e.g., benzene, 1-3-butadiene, diesel PM) have been reduced significantly over the last decade and will be reduced further in California through a progression of regulatory measures (e.g., Low Emission Vehicle/Clean Fuels and Phase II reformulated gasoline regulations) and control technologies. With the implementation of CARB's Risk Reduction Plan and other regulatory programs, it is estimated that emissions of diesel PM will be less than half of those in 2010 by 2035 (CARB 2025c). Adopted regulations are also expected to continue to reduce formaldehyde emissions emitted by cars and light-duty trucks. As emissions are reduced, it is expected that risks associated with exposure to the emissions will also be reduced.

LOCAL

Sacramento Area Council of Governments

The Sacramento Area Council of Governments (SACOG) is an association that includes the Counties of El Dorado, Placer, Sacramento, Sutter, Yolo, and Yuba. SACOG is responsible for preparing and updating the metropolitan transportation plan/sustainable communities strategy (MTP/SCS). The MTP/SCS is a regional vision to accommodate long-term growth needs of the Sacramento region and has been prepared and plays a critical role in supporting the State's climate efforts as well as local objectives to provide clean air for residents, as air quality can be directly affected by the type and density of land use change and population growth in urban and rural areas.

SACOG completed and adopted the 2025 MTP/SCS in November 2025, which aims to achieve various federal, state, regional, and local policy objectives related to development, transportation, and GHG emission reductions while considering financial, growth, and regulatory constraints.

Placer County Air Pollution Control District

The project site lies within the Placer County portion of the Sacramento Valley Air Basin (SVAB), which is under the jurisdiction of the PCAPCD. PCAPCD includes portions of three different air basins (i.e., Sacramento Valley, Mountain, and the Lake Tahoe Air Basins). PCAPCD is primarily responsible for developing and implementing rules and regulations for attainment of NAAQS and CAAQS, developing air quality management plans, permitting new or modified sources, and adopting and enforcing air pollution regulations within the Basin. The ability of PCAPCD to control emissions (including criteria pollutants, TACs, and greenhouse gas emissions [GHGs]) is provided primarily through permitting, but also through its role as a CEQA lead, responsible, or commenting agency, the establishment of CEQA thresholds, and the development of analytical requirements and guidance for CEQA documents.

Criteria Air Pollutants

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

All projects are subject to adopted PCACPD rules and regulations in effect at the time of construction. Specific rules applicable to the project may include but are not limited to the following:

- PCAPCD Rule 202 Visible Emissions. Requires that opacity emissions from any emission source do not exceed 20% for more than 3 minutes in any one hour.
- PCAPCD Rule 205 Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause to have a natural tendency to cause injury or damage to business or property.
- PCAPCD Rule 207 Particulate Matter:

    A. For the Sacramento Valley Air Basin and the Mountain Counties Air Basin portions of the Placer County Air Pollution Control District a person shall not release or discharge into the atmosphere from any source or single processing unit, exclusive of sources emitting combustion contaminants only, particulate matter emissions in excess of 0.1 grains per cubic foot of gas at District standard conditions.

- PCAPCD Rule 210 Specific Contaminants

    A. A person shall not discharge into the atmosphere from any source of emissions whatsoever, any one or more of the following contaminants, in any state or combination, therefore exceeding in concentration at point of discharge:

1. Sulfur compounds, calculated as sulfur dioxide (SO_2):
    a. 0.2 percent by volume for the Sacramento Valley and Mountain Counties Air Basin portions of the Placer County Air Pollution Control District.
2. Combustion Contaminants: Wood fired boilers and incinerators in the Sacramento Valley and Mountain Counties Air Basin portions of the Placer County Air Pollution Control District: 0.2 grains per cubic foot of gas calculated to 12 percent carbon dioxide (CO_2) at standard conditions.

- PCAPCD Rule 217 Cutback and Emulsified Asphalt Paving Materials:

1.1.1 A person shall not discharge to the atmosphere volatile organic compounds (VOCs) caused by the use or manufacture of Cutback or Emulsified asphalts for paving, road construction, or road maintenance, unless such manufacture or use complies with the provisions of this Rule.

- PCAPCD Rule 218 Application of Architectural Coatings: To limit the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the District.
- PCAPCD Rule 225 Wood Burning Appliances: To limit emissions of particulate matter entering the atmosphere from the operation of a wood burning appliance.
- PCAPCD Rule 228 Fugitive Dust:
    - Visible emissions are not allowed beyond the project boundary line.
    - Visible emissions may not have opacity of greater than 40% at any time.
    - Track-out must be minimized from paved public roadways.
- PCAPCD Rule 242 Stationary Internal Combustion Engines:
    - To limit the emission of nitrogen oxides (NO_X) and carbon monoxide (CO) from stationary internal combustion engines.

PCAPCD is located within the federally designated Sacramento Federal Ozone Nonattainment Area (SFNA) for air quality planning purposes. This is primarily because emissions generated within Placer County may affect the nearby Sacramento-Metropolitan Area. As a part of the SFNA, PCAPCD works with the Sacramento Metropolitan Air Quality Management District (SMAQMD) and the other local air districts within the Sacramento area to develop a regional air quality management plan under CAA requirements. The 2018 Sacramento Regional 2008 8-Hour Ozone Attainment and Further Reasonable Progress Plan was approved by CARB on November 16, 2017. At a public meeting held on October 26, 2023, CARB voted to approve the Sacramento Regional 70 parts per billion (ppb) 8-Hour Ozone Attainment and Reasonable Further Progress Plan. The Sacramento Regional 70 ppb 8-Hour Ozone Attainment and Reasonable Further Progress Plan was prepared by the five local air districts of the SFNA with the support of CARB. This management plan is called a SIP which describes and demonstrates how Placer County, as well as the Sacramento nonattainment area, would attain the required federal 8-hour ozone standard by the required attainment deadline (i.e., August 3, 2033). This plan is an air quality attainment plan (AQAP) that is applicable to development in the project area.

Toxic Air Contaminants

At the local level, PCAPCD may adopt and enforce CARB's airborne toxic control measures or else adopt its own, equally as stringent, measures. Under PCAPCD Rule 501 ("Permit Requirements"), PCAPCD Rule 502 ("New Source Review"), and PCAPCD Rule 507 ("Federal Operating Permit"), all sources that possess the potential to emit TACs are required to obtain permits from PCAPCD. PCAPCD may grant permits to these operations if they are constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. PCAPCD limits emissions and public exposure to TACs through a number of programs.

Sources that require a permit are analyzed by PCAPCD (e.g., health risk assessment) based on their potential to emit TACs that would expose receptors to substantial health risks. If it is determined that the project would emit TACs in excess of PCAPCD's standard of significance for TACs (identified below), then the source would have to implement

BACT for TACs to reduce emissions. If a source cannot reduce the risk below the threshold of significance even after the BACT has been implemented, PCAPCD will deny the permit required by the source. This helps to prevent new problems and reduces emissions from existing older sources by requiring them to apply new TAC-reduction technology when being retrofitted.

City of Roseville General Plan 2035

The Air Quality and Climate Change Element of the City of Roseville General Plan 2035 (General Plan) contains goals and policies that pertain to criteria air pollutant emissions, TACs, and odors (City of Roseville 2020). Key policies, and implementation measures that are applicable to the project include the following:

Air Quality Policies

- **Policy AQ1.1:** Cooperate with other agencies to develop a consistent and an effective approach to reducing air pollution.
- **Policy AQ1.2:** Work with the Placer County Air Pollution Control District to monitor air pollutants of concern on a continuous basis, and support Air District efforts to minimize emissions from stationary sources.
- **Policy AQ1.3:** Projects that could generate or expose sensitive uses to substantial air pollutant concentrations should incorporate strategies to reduce exposure to such emissions using measures recommended by the Placer County Air Pollution Control District and other applicable, feasible strategies, as needed, to avoid significant air quality impacts.
- **Policy AQ1.4:** As part of the development review process, develop mitigation measures to minimize stationary and area source emissions.
- **Policy AQ1.12:** Develop transportation systems that reduce vehicle emissions by improving the desirability of walking, bicycling, and public transportation relative to vehicular travel.
- **Policy AQ1.13:** Identify feasible strategies to reduce transportation emissions from new projects and existing development within the Planning Area.
- **Policy AQ1.14:** Encourage alternative modes of transportation, including pedestrian, bicycle, and transit use.
- **Policy AQ1.15:** Promote and incentivize low-emissions vehicles and associated charging infrastructure, and pursue funding from state programs and other sources to facilitate local purchase and use of electric vehicles.
- **Policy AQ1.16:** Implement land use policies that maintain and improve air quality and expand opportunities for transit-oriented development, which allows residents to significantly reduce vehicular transportation and associated air pollutant emissions.
- **Policy AQ1.17:** Conserve energy and reduce air pollutant emissions by encouraging energy efficient building designs and transportation systems and promoting energy efficiency retrofits of existing structures.
- **Policy AQ1.20:** Separate air pollution-sensitive land uses from sources of harmful air pollution.

General Plan Implementation Measures

Appendix A of the General Plan identifies the General Plan's implementation measures, which are proactive activities designed to implement General Plan policies. Implementation Measures are designated as ongoing or proposed (i.e., not yet implemented). The following may apply to the project:

Air Quality and Climate Change Mitigation Strategies - Area and Stationary Sources (Ongoing)

Require area and stationary source projects that generate significant amounts of air pollutants to incorporate air quality mitigation in their design, including the use of best available control technology for stationary industrial sources; clean fuel sources for heating and cooling; clean fuel technology at fueling stations; and other strategies, in consultation with PCAPCD.

Air Quality and Climate Change Mitigation Strategies - Mobile Sources (Ongoing)

Implement mitigation strategies to reduce air pollutant and greenhouse gas emissions from motor vehicles. These strategies, which may consist of improvements and refinements to the transportation and circulation infrastructure, may include, but are not limited to:

- Providing for future Bus Rapid Transit opportunities by designating high occupancy routes and reserving right-of-way within those routes;
- Filling gaps or missing links in infrastructure systems (i.e., bike/pedestrian trails, bridge crossings, railroad crossings, street extensions) prior to the construction and occupancy of residential developments utilizing that infrastructure;
- Promoting commercial/industrial project proponent sponsorship of van pools or club buses;
- Encouraging commercial/industrial project day care and employee services at the employment site;
- Encouraging the provision of transit, especially for employment-intensive uses;
- Providing subscription bus service to major trip generators or events;
- Discouraging single-occupant vehicle trips through parking supply and pricing controls or other measures identified by the PCAPCD;
- Providing incentives for the use of transportation alternatives;
- Providing expansion and improvement of public transportation services and facilities;
- Encouraging public transit use and the formation of carpools in new areas by requiring bus turnouts, bus shelters, and/or park-and-ride lots;
- Locating public facilities in areas easily served by public transportation;
- Requiring that large developments (e.g., Specific Plans, large commercial or residential uses) dedicate land for use as park-and-ride lots if suitably located, or requiring large developments to provide park-and-ride spaces if located adjacent to regional transit facilities;
- Considering right-of-way requirements for bike usage in the planning of new arterial and collector streets and in street improvement projects;
- Requiring that new development be designed to promote pedestrian and bicycle access and circulation;
- Providing safe and secure bicycle parking facilities at major activity centers, such as public facilities, employment sites, and shopping and office centers;
- Providing convenient and safe pedestrian and bike movement through the large parking areas that surround large retail and office centers;
- Promoting project design that encourages pedestrian and cyclist use, including grade separated crossing at major arterials, clear and safe connections between projects and uses; and
- Installing sidewalks in residential and commercial developments with protective curbing and adequate lighting and pedestrian amenities.

Air Quality and Climate Change Mitigation Strategies - Land Use (Ongoing)

Encourage development to be located and designed to minimize greenhouse gas and air pollutant emissions and avoid exposure to substantial pollutant concentrations by doing the following:

- Locating point sources, such as manufacturing and extracting facilities, in areas designated for industrial development and separated from residential areas and other sensitive receptors (e.g., homes, schools, and hospitals);

- Providing separation between sources of substantial air pollutant emissions and sensitive receptors and/or provide landscaping using plant species that are shown to reduce pollutant exposure;
- Providing ancillary employee services (including, but not limited to, childcare, restaurants, banks, and convenience markets) at major employment centers to reduce midday vehicle trips; and
- Providing for mixed-use and transit-supportive development that reduces the length and frequency of vehicle trips or reduces the need for vehicle trips by providing practical pedestrian, bicycle, and transit options.

Operational Air Quality and Greenhouse Gas Emissions (Proposed)

Projects that could have a potentially significant effect, as demonstrated by exceedance of the PCAPCD-recommended thresholds of significance, shall incorporate applicable PCAPCD-recommended standard operational mitigation measures, as listed below or as they may be updated in the future, or those design features determined by the City to be as effective:

- Wood burning or pellet stoves shall not be permitted. Natural gas or propane fired fireplaces shall be clearly delineated on plans submitted to obtain building permits.
- Where natural gas is available, gas outlets shall be provided in residential backyards for use with outdoor cooking appliances such as gas barbeques.
- Electrical outlets should be installed on the exterior walls of both the front and back of residences to promote the use of electric landscape maintenance equipment.
- All newly constructed residential buildings including one- and two-family dwellings, townhomes, and multi-family units in low-rise and high-rise residential buildings shall comply with the California Green Building Standards Code (CalGreen).
- Streets should be designed to maximize pedestrian access to transit stops.
- Site design shall maximize access to transit, to accommodate bus travel, and to provide lighted shelters at transit access points.
- A pedestrian access network shall link complementary land uses.
- Provide bicycle storage to promote bicycling.
- Vanpool parking only spaces and preferential parking for carpools should be required for employment-generating uses.
- Consider using concrete or other non-polluting materials for paving parking lots instead of asphalt.
- Landscaping should be designed to eventually shade buildings and parking lots.

Toxic Air Contaminants (Proposed)

- The City shall require, as part of plans for development within the Planning Area, the implementation of CARB's Air Quality and Land Use Handbook: A Community Health Perspective guidance concerning land use compatibility and recommended setback distances with regard to sources of TAC emissions and sensitive land uses, or related guidance as it may be updated in the future.
- As an alternative to these buffer distances, proposed sensitive receptors, uses that involve substantial truck trips, and large gas stations may provide a site-specific health risk assessment, using methods consistent with applicable guidance from the Office of Environmental Health Hazard Assessment, with mitigation, if necessary, to demonstrate compliance with applicable PCAPCD-recommended health risk thresholds. When health risk impacts exceed PCAPCD-recommended thresholds, feasible on-site mitigation measures to reduce TAC exposure shall be implemented to mitigate health risk impacts below PCAPCD-recommended thresholds. On-site measures could include but are not limited to providing enhanced filtration systems (e.g., MERV 13 or greater) for near-by sensitive receptor buildings, use of solid barriers to pollution, and vegetation to reduce pollutant concentrations, changes to the TAC emission source's operation (e.g. technology or management practices that reduce harmful

emissions at the Rail Yard), and positioning of exhaust and intake for ventilation systems to minimize exposure, among others.

- The City shall require, as part of development of land uses associated with sensitive receptors within 500 feet of high-volume roadways (defined as roadways carrying an average of 100,000 or more vehicles per day), the incorporation of feasible design measures to reduce exposure by sensitive receptors of substantial emissions of TACs from nearby high-volume roadways and operation of the Roseville Rail Yard. Design measures shall include recommended strategies from the ARB Technical Advisory, as listed below or as they may be updated in the future, or those design features determined by the City to be as effective:
  - Design that promotes air flow and pollutant dispersion along street corridors, including the use of wider sidewalks, bicycle lanes, and dedicated transit lanes, which create space for better air flow and pollutant dispersion along with increasing active transportation and mode shift;
  - Installation of solid barriers, particularly in the downwind direction. Note that consideration of this strategy should also weigh the negative effect of dividing neighborhoods and obscuring sightlines;
  - Installation of vegetation for pollutant dispersion; maximum benefit of this strategy is typically seen when combined with solid barriers; and
  - Installation of indoor high-efficiency filtration systems and devices to remove pollutants from the air. If this strategy is selected, a plan for ongoing operation and maintenance of the systems must also be developed to ensure long-term efficiency is achieved as intended by the system.

3.4.2 Environmental Setting

The project site is located in the City of Roseville within western Placer County, California, which is located within the SVAB. The SVAB also includes all of Butte, Colusa, Glenn, Sacramento, Shasta, Sutter, Tehama, Yolo, and Yuba counties and the eastern portion of Solano County.

The ambient concentrations of air pollutant emissions are determined by the amount of emissions released by the sources of air pollutants and the atmosphere's ability to transport and dilute such emissions. Natural factors that affect transport and dilution include terrain, wind, atmospheric stability, and sunlight. Therefore, existing air quality conditions in the area are determined by such natural factors as topography, meteorology, and climate, in addition to the amount of emissions released by existing air pollutant sources, as discussed separately below.

The nearest existing sensitive receptors in the vicinity of the project site are residences located approximately 50 feet east of the project site in the Creekview Specific Plan area and residences located approximately 600 feet south of the project site in the West Roseville Specific Plan area. It should also be noted that the Creekview Specific Plan (east of the project site), West Roseville Specific Plan (south of the project site), and Amoruso Ranch Specific Plan (northeast of the project site) areas are in various stages of development and will include a total of approximately 13,630 residential units at buildout.

AIR QUALITY AND AIR POLLUTANTS: A COMPREHENSIVE OVERVIEW

Air quality, the condition of the air we breathe, is a critical aspect of environmental and public health. Air pollutants, substances present in the air at concentrations that can harm living organisms or the environment, originate from both natural and human-made sources. Natural sources include volcanic eruptions, dust storms, and wildfires, while human activities like industrial processes, transportation, and agriculture contribute significantly to air pollution. Common air pollutants include PM, ground-level ozone, carbon monoxide, sulfur dioxide, nitrogen dioxide, and lead. PM, tiny particles suspended in the air, poses a significant health risk as it can penetrate deep into the lungs and even enter the bloodstream. Ground-level ozone, formed from reactions between nitrogen oxides and volatile organic compounds in the presence of sunlight, is a major component of smog and can harm respiratory health. Other pollutants like carbon monoxide, sulfur dioxide, and nitrogen dioxide also contribute to respiratory and cardiovascular problems (WHO n.d.).

Air pollution arises from a combination of both natural and anthropogenic sources. While natural events like volcanic eruptions, dust storms, wildfires, and sea salt contribute, human activities are the primary drivers, especially in populated and industrialized areas. Transportation, fueled largely by fossil fuels, is a major culprit, releasing nitrogen oxides, carbon monoxide, particulate matter, and volatile organic compounds into the air. Industrial processes, from power generation to manufacturing, emit a cocktail of pollutants, including sulfur dioxide, nitrogen oxides, particulate matter, and hazardous air pollutants. Agriculture, with its livestock and fertilizer use, adds ammonia, methane, and other pollutants to the mix. Even our homes and businesses contribute, with the burning of fossil fuels for heating and cooking, alongside the use of solvents and chemicals. Waste management, through landfills and incineration, releases methane, particulate matter, and other harmful substances. Recognizing this diverse array of sources is essential for devising effective strategies to combat air pollution and safeguard both human health and the environment.

Air quality is a localized concern, as pollutants tend to concentrate near their sources. However, some pollutants, particularly particulate matter and ozone, can travel long distances, impacting air quality in areas far from their origin. Air pollution has a significant impact on human health, contributing to respiratory diseases, cardiovascular problems, cancer, and other adverse health effects. It also harms the environment, damaging crops, forests, and aquatic ecosystems. Efforts to improve air quality involve a combination of regulatory measures, technological advancements, and individual actions. Regulations like the Clean Air Act set air quality standards and require pollution control measures for various sources. Technological advancements in cleaner fuels, energy-efficient vehicles, and industrial processes also contribute to reducing air pollution. Individual actions like driving less, conserving energy, and supporting policies promoting clean air can also make a difference. Understanding air quality and its impact on health and the environment is crucial for making informed decisions and taking action to protect ourselves and the environment.

CLIMATE, METEOROLOGY, AND TOPOGRAPHY

The SVAB is a relatively flat area bordered by the north Coast Ranges to the west and the northern Sierra Nevada to the east. Air flows into the SVAB through the Carquinez Strait, the only breach in the western mountain barrier, and moves across the Sacramento–San Joaquin Delta (Delta) from the San Francisco Bay area. The Mediterranean climate type of the SVAB is characterized by hot, dry summers and cool, rainy winters. During the summer, daily temperatures range from 50 degrees Fahrenheit (°F) to more than 100°F. The inland location and surrounding mountains shelter the area from much of the ocean breezes that keep the coastal regions moderate in temperature. Most precipitation in the area results from air masses that move in from the Pacific Ocean, usually from the west or northwest, during the winter months. More than half the total annual precipitation falls during the winter rainy season (November through February); the average winter temperature is a moderate 49°F. Another characteristic of SVAB winters are periods of dense and persistent low-level fog, which are most prevalent between storms. The prevailing winds are moderate in speed and vary from moisture-laden breezes from the south to dry land flows from the north.

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

May through October is ozone season in the SVAB. This period is characterized by poor air movement in the mornings with the arrival of the Delta Sea breeze from the southwest in the afternoons. In addition, longer daylight hours provide a plentiful amount of sunlight to fuel photochemical reactions between reactive organic gases (ROG) and NO_X, which result in ozone formation. Typically, the Delta breeze transports air pollutants northward out of the SVAB; however, a phenomenon known as the Schultz Eddy prevents this from occurring during approximately half of the time from July to September. The Schultz Eddy phenomenon causes the wind to shift southward and blow air pollutants back into the SVAB. This phenomenon exacerbates the concentration of air pollutant emissions in the area and contributes to the area violating the ambient-air quality standards.

The local meteorology of the project area and surrounding area is represented by measurements recorded at the Western Regional Climate Center Rocklin station. The normal annual precipitation is approximately 23 inches. January temperatures range from a normal minimum of 35°F to a normal maximum of 54°F. July temperatures range from a normal minimum of 58°F to a normal maximum of 97°F (WRCC 2025). The predominant wind direction is from the south (WRCC 2025).

CRITERIA AIR POLLUTANTS

Concentrations of criteria air pollutants are used to indicate the quality of the ambient air. A brief description of key criteria air pollutants in the SVAB is provided below. Emission source types and health effects are summarized in Table 3.4-2. Placer County's attainment status for the CAAQS and the NAAQS are shown in Table 3.4-3.

Ozone

Ozone is a photochemical oxidant (a substance whose oxygen combines chemically with another substance in the presence of sunlight) and the primary component of smog. Ozone is not directly emitted into the air but is formed through complex chemical reactions between precursor emissions of ROG and NO_X in the presence of sunlight. ROG are volatile organic compounds that are photochemically reactive. ROG emissions result primarily from incomplete combustion and the evaporation of chemical solvents and fuels. NO_X are a group of gaseous compounds of nitrogen and oxygen that result from the combustion of fuels.

Emissions of the ozone precursors ROG and NO_X have decreased over the past several years because of more stringent motor vehicle standards and cleaner burning fuels. The Sacramento Regional 70 ppb 8-Hour Ozone Attainment and Reasonable Further Progress Plan identified that ROG and NO_X concentrations at two study sites in the area trended downward between 200 and 2021 despite year-to-year variations and are projected to continue decreasing through 2032 (EDCAQMD et al. 2023).

Nitrogen Dioxide

NO_2 is a brownish, highly reactive gas that is present in all urban environments. The major human-made sources of NO_2 are combustion devices, such as boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X and are reported as equivalent NO_2. Because NO_2 is formed and depleted by reactions associated with photochemical smog (ozone), the NO_2 concentration in a particular geographical area may not be representative of the local sources of NO_X emissions (EPA 2025c).

Particulate Matter

Respirable particulate matter with an aerodynamic diameter of 10 micrometers or less is referred to as PM_{10}. PM_{10} consists of particulate matter emitted directly into the air, such as fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires and natural windblown dust, and particulate matter formed in the atmosphere by reaction of gaseous precursors (CARB 2013). Fine particulate matter ($PM_{2.5}$) includes a subgroup of smaller particles that have an aerodynamic diameter of 2.5 micrometers or less. PM_{10} emissions in the SVAB are dominated by emissions from area sources, primarily fugitive dust from vehicle travel on unpaved and paved roads, farming operations, construction and demolition, and particles from residential fuel combustion. Direct emissions of PM_{10} are projected to remain relatively constant through 2035. Direct emissions of $PM_{2.5}$ steadily declined in the SVAB between 2000 and 2010 and are projected to increase very slightly through 2035. Emissions of $PM_{2.5}$ in the SVAB are dominated by the same sources as emissions of PM_{10} (CARB 2013).

Table 3.4-2 Sources and Health Effects of Criteria Air Pollutants

Pollutant	Sources	Acute[1] Health Effects	Chronic[2] Health Effects
Ozone	Secondary pollutant resulting from reaction of ROG and NO_X in presence of sunlight. ROG emissions result from incomplete combustion and evaporation of chemical solvents and fuels; NO_X results from the combustion of fuels	increased respiration and pulmonary resistance; cough, pain, shortness of breath, lung inflammation	permeability of respiratory epithelia, possibility of permanent lung impairment
Carbon monoxide (CO)	Incomplete combustion of fuels; motor vehicle exhaust	headache, dizziness, fatigue, nausea, vomiting, death	permanent heart and brain damage
Nitrogen dioxide (NO_2)	combustion devices; e.g., boilers, gas turbines, and mobile and stationary reciprocating internal combustion engines	coughing, difficulty breathing, vomiting, headache, eye irritation, chemical pneumonitis or pulmonary edema; breathing abnormalities, cough, cyanosis, chest pain, rapid heartbeat, death	chronic bronchitis, decreased lung function
Sulfur dioxide (SO_2)	coal and oil combustion, steel mills, refineries, and pulp and paper mills	Irritation of upper respiratory tract, increased asthma symptoms	Insufficient evidence linking SO_2 exposure to chronic health impacts
Respirable particulate matter (PM_{10}), Fine particulate matter ($PM_{2.5}$)	fugitive dust, soot, smoke, mobile and stationary sources, construction, fires and natural windblown dust, and formation in the atmosphere by condensation and/or transformation of SO_2 and ROG	breathing and respiratory symptoms, aggravation of existing respiratory and cardiovascular diseases, premature death	alterations to the immune system, carcinogenesis
Lead	metal processing	reproductive/ developmental effects (fetuses and children)	numerous effects including neurological, endocrine, and cardiovascular effects

Notes: NO_X = oxides of nitrogen; ROG = reactive organic gases.

[1] "Acute health effects" refers to immediate illnesses caused by short-term exposures to criteria air pollutants at fairly high concentrations. An example of an acute health effect includes fatality resulting from short-term exposure to carbon monoxide levels in excess of 1,200 parts per million.

[2] "Chronic health effects" refers to cumulative effects of long-term exposures to criteria air pollutants, usually at lower, ambient concentrations. An example of a chronic health effect includes the development of cancer from prolonged exposure to particulate matter at concentrations above the national ambient air quality standards.

Source: EPA 2025d.

ATTAINMENT DESIGNATIONS

Criteria air pollutant concentrations are measured at several monitoring stations in the SVAB. The Roseville-North Sunrise Boulevard station is located approximately 8 miles southeast of the project site and is the closest monitoring station to the project site with recent data for ozone, PM_{10}, and $PM_{2.5}$. In general, the local ambient air quality measurements from this station are representative of the air quality near the project given its similar meteorological conditions and urban surroundings.

Both CARB and EPA use this type of monitoring data to designate areas according to their attainment status in accordance with ambient air quality standards for criteria air pollutants. The purpose of these designations is to identify those areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are "nonattainment," "attainment," and "unclassified." "Nonattainment" means that an area does not attain State or federal ambient air quality standards for a given pollutant, while "attainment" means that an area either attains or exceeds State or federal ambient air quality standards. "Unclassified" is used in an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California designations include a subcategory of the nonattainment designation, called "nonattainment-transitional." The nonattainment-transitional designation is given to nonattainment areas that are progressing and nearing attainment. Attainment designations in Placer County are shown in Table 3.4-3 for each criteria air pollutant. Key pollutants for which Placer County is in nonattainment include ozone (California and National), PM_{10} (California), and $PM_{2.5}$ (National).

Table 3.4-3 Attainment Status Designations for Placer County

Pollutant	National Ambient Air Quality Standard	California Ambient Air Quality Standard
Ozone	Revoked in 2005 (1-hour)[1]	Nonattainment (1-hour) Classification-Serious[2]
	Attainment (8-hour)[3]	Nonattainment (8-hour)
	Nonattainment (8-hour)[4] Classification=Serious	
Respirable particulate matter (PM_{10})	Attainment (24-hour)	Nonattainment (24-hour)
		Nonattainment (Annual)
Fine particulate matter ($PM_{2.5}$)	Nonattainment (24-hour)	(No State Standard for 24-Hour)
	Attainment (Annual)	Attainment (Annual)
Carbon monoxide (CO)	Attainment (1-hour)	Attainment (1-hour)
	Attainment (8-hour)	Attainment (8-hour)
Nitrogen dioxide (NO_2)	Attainment (1-hour)	Attainment (1-hour)
	Attainment (Annual)	Attainment (Annual)
Sulfur dioxide (SO_2)[5]	Attainment/Unclassified	Attainment (1-hour)
		Attainment (24-hour)
Lead (Particulate)	Attainment (3-month rolling avg.)	Attainment (30-day average)
Hydrogen Sulfide	No Federal Standard	Unclassified (1-hour)
Sulfates		Attainment (24-hour)
Visibly Reducing Particles		Unclassified (8-hour)
Vinyl Chloride		Unclassified (24-hour)

[1] Air Quality meets federal 1-hour Ozone standard (77 FR 64036). EPA revoked this standard, but some associated requirements still apply.

[2] Per Health and Safety Code (HSC) § 40921.5(c), the classification is based on 1989 – 1991 data, and therefore does not change.

[3] 2008 Standard.

[4] 2015 Standard.

[5] 2010 Standard.

Sources: EDCAQMD et al. 2023; US Federal Register 2025; EPA 2025.

EPA finalized their determination that the Sacramento Metro area attained the 2008 8-hour ozone NAAQ by its December 31, 2024, attainment date as well as a determination that the requirement for the State to have contingency measures for reasonable further progress and attainment for the 2008 ozone NAAQS no longer applies to this area (US Federal Register 2025). The *Sacramento Regional 2015 NAAQS 8-hour Ozone Attainment and Reasonable Further Progress Plan* was prepared to meet requirements of the federal Clean Air Act for the 2015 8-hour ozone standard. This Sacramento Ozone SIP demonstrates how the region is going to reduce emissions and attain the 2015 ozone standard no later than August 3, 2033 (EDCAQMD et al. 2023: 1-1). This air quality plan relies on existing control measures and adopted rules, new state and federal regulations, and new local and regional measures to reduce ozone. The project would be required to adhere to all federal, state, and local regulatory measures to comply with the air quality plan.

TOXIC AIR CONTAMINANTS

According to the *California Almanac of Emissions and Air Quality* (CARB 2013), most of the estimated health risks from TACs can be attributed to relatively few compounds, the most important being diesel PM. Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emissions control system is being used. Unlike the other TACs, no ambient monitoring data is available for diesel PM because no routine measurement method currently exists. However, CARB has made preliminary concentration estimates based on a PM exposure method. This method uses the CARB emissions inventory's PM_{10} database, ambient PM_{10} monitoring data, and the results from several studies to estimate concentrations of diesel PM. In addition to diesel PM, the TACs for which data are available that pose the greatest existing ambient risk in California are benzene, 1,3-butadiene, acetaldehyde, carbon tetrachloride, hexavalent chromium, para-dichlorobenzene, formaldehyde, methylene chloride, and perchloroethylene. Overall, levels of most TACs, except para-dichlorobenzene and formaldehyde, have decreased since 1990 (CARB 2013).

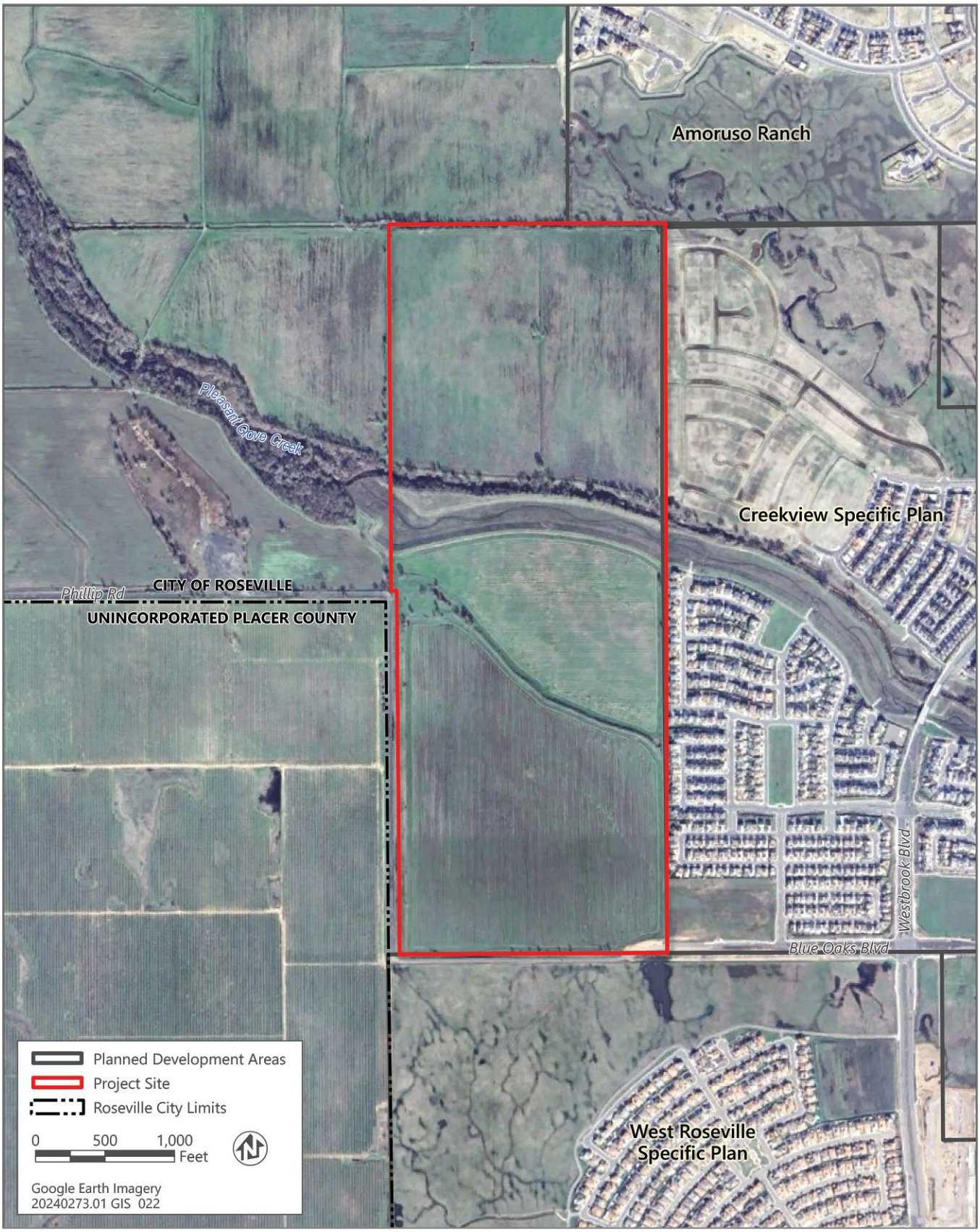
ODORS

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). The ability to detect odors varies considerably among the population and overall is quite subjective. Some individuals can smell minute quantities of specific substances; others may not have the same sensitivity but may have sensitivities to odors of other substances. In addition, people may have different reactions to the same odor; an odor that is offensive to one person may be perfectly acceptable to another (e.g., fast food restaurant). It is important to also note that an unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. This is because of the phenomenon known as odor fatigue, in which a person can become desensitized to almost any odor and recognition only occurs with an alteration in the intensity. Uses typically associated with the generation of nuisance odors include wastewater treatment plants, chemical manufacturing facilities, sanitary landfills, fiberglass manufacturing facilities, transfer stations, painting/coating operations (e.g., auto body shop), composting facilities, food processing plants, petroleum refineries, rendering plants, asphalt batch plants, and coffee roasters.

SENSITIVE RECEPTORS

Sensitive receptors are generally considered to include those land uses where exposure to pollutants could result in health-related risks to sensitive individuals, such as children or the elderly. Residences, schools, hospitals, playgrounds, and similar facilities are of primary concern because of the presence of individuals particularly sensitive to pollutants and/or the potential for increased and prolonged exposure of individuals to pollutants.

The nearest existing sensitive receptors in the vicinity of the project site are residences located approximately 50 feet east of the project site in the Creekview Specific Plan area and residences located approximately 600 feet south of the project site in the West Roseville Specific Plan area (Figure 3.4-1). It should also be noted that the Creekview Specific Plan (east of the project site), West Roseville Specific Plan (south of the project site), and Amoruso Ranch Specific Plan (northeast of the project site) areas are in various stages of development and will include a total of approximately 13,630 residential units at buildout. These receptors were considered in this analysis because homes are currently being constructed and, therefore, would likely be occupied by the time project construction begins. In addition to residences, Orchard Ranch Elementary School, West Park High School, Westbrook Elementary School, The Goddard School of Roseville, Riego Creek Elementary, Fiddyment Elementary, Chilton Middle School, and Junction Elementary School are located within two miles of the project area.



Source: Image adapted by Ascent in 2025.

Figure 3.4-1 Existing Sensitive Receptors

3.4.3 Environmental Impacts and Mitigation Measures

METHODOLOGY

Criteria Air Pollutants and Ozone Precursors

Regional and local criteria air pollutant emissions and associated impacts, as well as impacts from TACs and odors, were assessed in accordance with PCAPCD-recommended methodologies. CO concentrations were not assessed in the analysis because Placer County is in attainment status for CO. The project's estimated emissions were compared to PCAPCD-adopted thresholds as described in the following section.

Construction Mass Emissions

Construction and operational emissions of criteria air pollutants and precursors were calculated using the California Emissions Estimator Model (CalEEMod) Version 2022.1.1.30 computer program, as recommended by PCAPCD (PCAPCD 2017). Modeling was based on project-specific information (e.g., size of the buildings, duration of construction, grading and paving quantities) where available. Reasonable assumptions for pieces and hours of construction equipment used based on typical construction activities and default values in CalEEMod that are based on the project's location and land use type.

The project would be developed in 10 phases and construction activities would occur from 7:00 a.m. to 7:00 p.m. Monday through Friday, which is within the allowable construction daytime hours as established by the City of Roseville (see the City of Roseville's Municipal Code, Chapter 9.24.030 Exemptions). Overall construction phasing was used to assign equipment use and vehicle trips to daily activities to derive maximum emissions and total emissions scenario. Based on data provided by the project applicant, construction would begin as early as 2027. The backbone infrastructure phase is anticipated to begin construction in 2027 and be complete in 18 months. The full buildout year is expected to be 2038. See Tables 2-5 and 2-6 in Chapter 2, "Project Description," for a list of individual phases and associated timing.

Land use types were modeled based on allowable commercial land uses from Tables 2-1 and 2-3 in Chapter 2, "Project Description." Where specific land uses were not available, the likely and conservative equivalents were used to estimate mass emissions. The innovation land uses were modeled as data centers, research and development medical facilities, and automobile repair shops. The medical offices were modeled as a medical office building, and the retail land use was modeled as a hardware store.

Operational Mass Emissions

Operational emissions were estimated for the full buildout year of 2038 when the project would be fully operational. Based on the nature of proposed uses, the project would result in operational emissions associated with area sources, mobile sources, and off-gassing emissions associated with consumer products, architectural coatings, autobody shop paint booths, and TACs from the biosafety level 2 wet labs. CalEEMod was used to model all sources with project-specific information as inputs, where available (e.g., building square footage, land use type, water, electricity, natural gas, and project VMT and daily trips for operations), TAC emissions from the autobody shop paint booths and the biosafety level 2 wet labs, and emissions from the delivery trucks and generators, which were modeled in excel using project specific information. As detailed in Chapter 2, "Project Description," the residential component of the project would not require natural gas service, and the innovation and commercial components would only use natural gas in the case of an operational need for an advanced manufacturer or other user. In compliance with PCAPCD Rule 225, Wood Burning Appliances, residential land uses were modeled without fireplaces or wood burning stoves.

Autobody solvent quantities and emissions factors were provided by PCAPCD for a representative existing body shop (Montoya, pers. comm., 2025). Emissions from wet labs were calculated using a chemical inventory available from the UC San Diego 2019 Hillcrest Long Range Development Plan (UCSD 2019) and off-gassing loss rates available from the UC San Diego 2018 Long Range Development Plan Air Quality Technical Report and HRA (UCSD 2018: 54). Emissions for each chemical were scaled using the wet lab building square footage anticipated for the project (UCSD 2019).

Mobile source emissions would result from vehicle miles traveled (VMT) that would be generated by trucks and passenger cars. For this analysis, data was provided by Fehr & Peers (Fehr & Peers 2025).

Two types of diesel generators would be included in the project: 15 3-megawatt (MW) Tier 4 generators with 4,000 HP each to provide power to the future potential data center and 12 emergency diesel generators for the commercial and retail buildings with 500 HP. Generator emissions were calculated using CalEEMod default emission factors (i.e., statewide average emissions factors and Tier) for a 500 HP generators and CARB emission factors for Tier 4 off-road diesel generators (CARB 2020).

Toxic Air Contaminants

The level of health risk from exposure to construction- and operations-related diesel PM emissions and numerous other TACs was assessed quantitively by conducting an HRA. The HRA evaluated construction emissions separately, operational emissions separately (under full operation), and evaluated a combined construction and operational scenario. To determine pollutant concentrations at specific locations (i.e., receptors), air dispersion modeling was conducted using site-specific parameters (e.g., terrain, meteorological data) for construction activities and operational activities at full operation.

Modeling Approach

To determine pollutant concentrations at specific locations (i.e., receptors), air dispersion modeling was conducted using site-specific parameters (e.g., terrain, meteorological data) for construction activities. Dispersion modeling was conducted using the CARB-approved American Meteorological Society/Environmental Protection Agency Regulatory Model (AERMOD) Version 24142, with a unit emission rate of 1 gram per second for all modeled sources (i.e., diesel construction equipment and generators, autobody shops, and off-gassing from the wet labs). This approach was used so that resulting ground-level concentrations could be multiplied by actual emission rates for various scenarios (e.g., phase-wise construction, full buildout). The modeling included all standard regulatory default options, including the use of data from the nearest and most representative meteorological station (i.e., Sacramento International Airport) and local terrain. Terrain in the project vicinity is generally flat. Terrain in the project vicinity is generally flat. The methods used to estimate health risks from construction and operation of the proposed project are briefly described below. CARB's Hotspots and Analysis Reporting Program (HARP2) was used to model TACs from the autobody shop and wet labs. Detailed model assumptions, inputs, and output for the HRA are presented in Appendix B.

Construction HRA

To represent site locations where construction activities would occur, construction emission sources (e.g., the use of heavy-duty equipment on-site) were modeled as area sources, consistent with PCAPCD's guidance on conducting HRAs (PCAPCD 2017). Mobile exhaust emissions were represented using line-volume sources.

Construction mass emissions were quantified as described above for criteria air pollutants and ozone precursors. The primary TAC evaluated in the construction HRA was diesel PM, modeled as PM_{10} exhaust. Emissions rates were calculated based on an anticipated construction schedule of 8 hours per day, 5 days per week, over an 11-year active construction period.

To represent site locations where construction activities would occur, construction emission sources (i.e., the use of heavy-duty equipment on-site) were modeled as area sources for each construction phase. The release height of 5 meters (m) was considered from SMAQMD's construction health risk guidance as the PCAPCD did not have specific guidance regarding heavy-duty equipment release height in its own health risk guidance document.

Construction would be completed in phases and, thus, as residential properties are developed, they would be affected by only future construction. The HRA was modeled such that receptors constructed in Phase R3 would not be affected by construction phases that occur before Phase R3 (Backbone infrastructure, R1, R2/I1) and only would be affected by construction phases that occur after Phase R3 (R4/I2, R5, I3, and I4).

Operational HRA

The operational HRA evaluated various TACs associated with on-site activities and anticipated sources and diesel PM associated with off-site truck travel and idling, generators, and daily truck delivery trips associated with the innovation

center, retail stores, and medical office. Overall, the approach was similar to that described above, applying unit rates in the air dispersion model and mass emissions for each individual source to the ground level concentration outputs. Risk estimates were modeled using AERMOD, similarly to construction. CARB's Hotspot Analysis and Reporting Program (HARP) risk tool (HARP2, version 22118) and the most updated Health Database (July 20, 2025) were used to evaluate TACs from the future potential autobody shop and the future potential wet labs. Specific methods by source are described in greater detail below and the complete HRA methodology, including model input parameters, is included in Appendix B.

Onsite truck movement and haul routes were modeled as line volume sources with release heights of 3.4 m, plume heights of 6.8 m, and plume widths of 8 m. All generators were modeled as point sources and the 3 MW generators with source parameters from the UC San Diego Hillcrest Long Range Development Plan HRA main generators (UCSD 2019). The emergency backup generators were modeled using the source parameters provided by BAAQMD's guidance (BAAQMD 2022) for backup generators. The future potential wet labs and future potential autobody shops were modeled with adjacent volume sources. For specific modeling parameters, see Appendix B.

Odors

Impacts related to odors were assessed qualitatively, based on proposed construction and operational activities, equipment types and duration of use, overall construction schedule, and distance to nearby sensitive receptors.

THRESHOLDS OF SIGNIFICANCE

Thresholds of significance are based on Appendix G of the State CEQA Guidelines and thresholds of significance adopted by PCAPCD. PCAPCD air quality thresholds of significance are tied to achieving or maintaining attainment designations with the NAAQS and CAAQS, which are scientifically substantiated, numerical concentrations of criteria air pollutants considered to be protective of human health. Implementation of the project would have a significant impact related to air quality such that human health would be adversely affected if it would:

- conflict with or obstruct implementation of an applicable air quality plan;
- cause construction-generated criteria air pollutant or precursor emissions to exceed the PCAPCD-recommended thresholds of 82 pounds per day (lb/day) for ROG, NO_x, or 82 lb/day PM_{10} (PCAPCD 2017: 21);
- result in a net increase in long-term project operational criteria air pollutant or precursor emissions that exceed the PCAPCD-recommended thresholds of 55 lb/day for ROG, 55 lb/day for NOx, and 82 lb/day for PM_{10} (PCAPCD 2017: 21);
- expose sensitive receptors to substantial concentrations of CO;
- expose sensitive receptors to substantial incremental increases in TAC emissions that exceed 10 in one million for carcinogenic risk (i.e., the risk of developing cancer) and/or a noncarcinogenic Hazard Index (HI) of 1.0 or greater; or
- create objectionable odors affecting a substantial number of people.

ISSUES NOT DISCUSSED FURTHER

The SVAB has been in attainment for CO since 1998, and as vehicle fleets in California continue to become cleaner, CO impacts are less of a concern. Hence, localized mobile-source CO emissions associated with the project are not anticipated to exceed PCAPCD thresholds and therefore are not discussed further in this analysis.

ENVIRONMENTAL IMPACTS AND MITIGATION MEASURES

Impact 3.4-1: Conflict with or Obstruct Implementation of the Applicable Air Quality Plan

The *2018 Sacramento Regional 2015 8-Hour Ozone Attainment and Reasonably Further Progress Plan* is applicable to the project. The project would result in the development of new residential, office, retail, and innovation land uses which would generate short- and long-term increases in criteria air pollutants and ozone precursors of ROG, NO_X, and PM_{10}. However, because the project would not result in increases in population or employment growth beyond that projected in the regional MTP/SCS and would not result in increases in VMT above that forecasted in attainment plans, the project would not conflict with or obstruct the implementation of the air quality plan. Therefore, this impact would be **less than significant**.

Air districts in California are required to prepare and update air quality plans to meet or maintain compliance with federal and state air quality standards. The two most common types of air quality plans are attainment plans, which must show how the region will attain an air pollutant standard by a certain date; and maintenance plans, which must demonstrate how the region will continue to maintain compliance with a standard. Development of these plans requires extensive collaboration with other agencies within the region, industries, businesses, the public, as well as cooperation with the other air districts within SFNA planning boundaries, which includes the project site. The *2018 Sacramento Regional 2015 8-Hour Ozone Attainment and Further Reasonable Progress Plan* was approved by CARB on October 26, 2023. The SVAB is currently designated as nonattainment for ozone and PM_{10}. PCAPCD is a part of the SMAQMD AQAP, which presents comprehensive strategies to reduce volatile organic compounds, NO_X, PM_{10}, and $PM_{2.5}$ emissions from stationary or area, mobile, and indirect sources to achieve attainment status with respect to NAAQS and CAAQS. Implementation of the project would result in the development of new residential, office, retail, and innovation uses, which would generate short-term and long-term increases in criteria air pollutants and ozone precursors of ROG, NO_X, and PM_{10}.

The emission inventories used to develop applicable air quality plans are based primarily on projected population and employment growth and associated VMT for the SVAB. This growth is estimated for the region, based in part on the planned growth identified in regional and local land use plans. Therefore, projects that would result in increases in population or employment growth beyond that projected in regional or local plans could result in increases in VMT and associated mobile emissions beyond those forecasted in the applicable plans.

As discussed above in Section 3.4.1, "Regulatory Setting," the SACOG MTP/SCS establishes a long-range development pattern that identifies the general location of different types of land uses, residential densities, and employment densities. The 2025 MTP/SCS forecasts residential and employment growth throughout the City of Roseville and specifically identifies the area in which the project site is located as an established community projected for residential and employment growth (SACOG 2025). In addition, as discussed in Section 3.3, "Transportation and Circulation," implementation of the project would not result in an exceedance of applicable VMT thresholds. Because the project would not result in increases in population or employment growth beyond that projected in regional or local plans and would not result in increases in VMT above that forecasted in attainment plans, the project would not conflict with or obstruct the implementation of the air quality plan. Therefore, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.4-2: Construction Emissions of Criteria Air Pollutants and Ozone Precursors

Construction of the project would result in emissions of ROG, NO_X, and particulate matter from the use of heavy-duty construction equipment, travel on unpaved surfaces, and earth movement for site preparation and grading activities. Construction activities would not result in maximum daily emissions that exceed PCAPCD thresholds of significance in any year. Therefore, this impact would be **less than significant**.

Project construction activities would result in emissions of ROG, NO_X, and PM_{10} from site preparation (e.g., excavation, clearing, trenching), off-road equipment, material delivery, worker commute trips, building construction, paving, and application of architectural coatings. Fugitive dust emissions of PM_{10} are associated primarily with site preparation and grading and vary as a function of soil silt content, soil moisture, wind speed, acreage of disturbance, and VMT on and off the site. Emissions of ozone precursors, ROG and NO_X, are associated primarily with construction equipment and on-road mobile exhaust. Paving and the application of architectural coatings result in off-gas emissions of ROG. PM_{10} and $PM_{2.5}$ are also contained in vehicle exhaust.

Typical construction activities would require earthmoving equipment (scrapers, dozers, excavators), concrete mix trucks and concrete pumps, cranes, welders, pavers, rollers, paving equipment, forklifts, semi-trucks and other trucks for deliveries, trenchers, generators, and personal autos as necessary. Activities would also include hauling, vendor, and worker trips that would occur mostly off-site. Although the rate of buildout would largely be driven by market demand, for the purposes of this analysis, construction activities are anticipated to occur over a 10-year timeframe with 2027 as the start year for construction and a 2038 build out year. There are several years during which construction of the residential component and innovation component could overlap (i.e., 2029 through 2033) and one year (i.e., 2035) during which there could possibly be no construction. The electrical substation would be constructed during the first or second phase of the innovation and commercial component depending on the specific level of electricity demand of the future tenants. Bridge construction would not occur until immediately prior to the development of the northern portion of the site. Maximum daily construction emissions for each year of project construction are presented in Table 3.4-4 and model inputs and outputs are available in Appendix B.

Table 3.4-4 Unmitigated Maximum Daily Emissions of Criteria Air Pollutants and Precursors Emissions Associated with Project Construction

Construction Year	ROG (lb/day) Emissions	NO_X (lb/day) Emissions	PM_{10} (lb/day) Emissions	Phases Included
2027	4	33	8	Backbone
2028	3	28	9	Backbone, R1
2029	23	32	9	R1, R2/I1
2030	42	64	14	R2/I1, R3
2031	15	27	9	R3, R4/I2
2032	30	22	9	R4/I2, R5
2033	11	26	21	R5, I3
2034	17	9	2	I3
2035	—	—	—	No construction in 2035
2036	1	13	5	I4
2037	3	7	0	I4
Maximum Daily Emissions	**42**	**64**	**21**	**—**
PCAPCD Thresholds of Significance	**82**	**82**	**82**	**—**
Threshold Exceeded	**No**	**No**	**No**	**—**

Notes: ROG = reactive organic gas; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; lb/day = pounds per day; PCAPCD = Placer County Air Pollution Control District.

Source: Modeling conducted by Ascent in 2025.

According to PCAPCD guidance, projects with daily emissions that exceed the thresholds of 82 lb/day for PM_{10}, NO_X, or ROG would have a significant impact on air quality. Project construction would not generate emissions that exceed the established maximum daily threshold for PM_{10}, NO_X, and ROG (i.e., 82 lb/day) during all years of construction, as shown in Table 3.4-4. Because PCAPCD thresholds of significance are directly tied to attaining the NAAQS, projects that do not exceed these thresholds would not be considered to contribute to adverse health effects. For these reasons, construction emissions from the project would not result in negative health outcomes and would be **less than significant**.

Mitigation Measures

No mitigation is required.

Impact 3.4-3: Long-term Operational Emissions of Criteria Air Pollutants and Ozone Precursors

Implementation of the project would result in long-term operational emissions from building-related energy and area-wide sources (e.g., landscaping equipment) as well as from mobile sources associated with residences, employee commute, and operational truck travel. Based on modeling conducted, operational emissions would exceed the PCAPCD threshold of 55 lb/day for ROG. Therefore, implementation of the project would result in a cumulatively considerable net increase in criteria air pollutants and could result in adverse health impacts. This impact would be **significant**.

On-site sources would include the use of diesel generators, truck idling, use of landscaping equipment, the periodic application of architectural coatings, and the use of consumer products. Energy sources would include electricity and natural gas consumption by the buildings. As detailed in Chapter 2, "Project Description," and discussed in Section 3.4.3, "Methodology," the residential component of the project would not require natural gas. Natural gas would only be used in nonresidential components of the project in the case of an operational need of an advanced manufacturer or other user. Project operation would result in the generation of long-term operational emissions of ROG, NO_X, and particulate matter (e.g., PM_{10} and $PM_{2.5}$) associated with mobile, energy, and area-wide sources. Mobile-source emissions of criteria air pollutants and precursors would result from vehicle trips generated by residents, employee commute, and vendor deliveries. Emissions, summarized by source, are presented in Table 3.4-5.

Table 3.4-5 Unmitigated Criteria Air Pollutant and Precursor Emissions Associated with Project Buildout Operations (2038)

Emission Source	ROG (lb/day)	NO_X (lb/day)[1]	PM_{10} (lb/day)
Area Sources	63	1	<1
Building Energy	1	9	1
Wastewater	<1	<1	<1
Solid Waste	<1	<1	<1
Refrigerants	<1	<1	<1
Generators	3	9	<1
Mobile – Passenger Cars	37	25	73
Trucks	<1	7	5
Wet Labs	1	<1	<1
Autobody Shops	<1	<1	<1
Project Emissions	**105**	**51**	**79**
PCAPCD Thresholds of Significance	**55**	**55**	**82**
Exceeds Threshold?	**Yes**	**No**	**No**

Notes: ROG = reactive organic gas; NO_X = oxides of nitrogen; PM_{10} = respirable particulate matter; lb/day = pounds per day; PCAPCD = Placer County Air Pollution Control District.

Source: Modeled by Ascent in 2025.

Based on project characteristics, operational maximum daily emissions of ROG (i.e., 105 lb/day) would exceed the applicable PCAPCD threshold of significance (i.e., 55 lb/day), as shown in Table 3.4-5. The ROG impact would be due to area sources (e.g., landscaping equipment, consumer products) as well as vehicle exhaust and off-gassing (i.e., the process by which materials release gases into the air) from architectural coatings. PCAPCD mass emissions thresholds have been developed in consideration of long-term air quality planning to attain the NAAQS as a

component of the State SIP strategy. Projects that emit emissions in exceedance of these thresholds would conflict with air quality plans that include strategies and inventories to assist an air basin in attaining the NAAQS. The NAAQS are scientifically substantiated concentration-based thresholds used to determine whether an adverse health outcome could occur from exposure. Because PCAPCD thresholds of significance are directly tied to attaining the NAAQS, projects that exceed these thresholds would be considered to contribute to adverse health effects. Therefore, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.4-3a: Promote Green Consumer Products

To reduce area-wide operational emissions of reactive organic gases (ROG) from architectural coatings and consumer products, the project applicant shall provide educational material for residential and nonresidential tenants that describes the environmental impacts of volatile organic compounds (VOCs) and identifies specific examples of green consumer products. The educational materials shall encourage the purchase and use of consumer products that generate lower than typical VOC emissions. Examples of green products may include low-VOC architectural coatings, cleaning supplies, and consumer products, as well as electric or alternatively fueled landscaping equipment. Prior to recordation of any final map, the developer shall record Covenants, Conditions, and Restrictions (CCRs) approved by the City of Roseville that require the property owner, homeowners' association, or other responsible entity to distribute educational materials to all new tenants at the time of lease signing and maintain records of distribution.

Mitigation Measure 3.4-3b: Require the Use of Electric Landscaping Equipment

To reduce area-wide emissions associated with operational landscaping equipment, the developer shall ensure that ongoing landscape maintenance for common areas and nonresidential exterior grounds uses only electric landscaping equipment. This requirement shall be included in all property management and tenant lease agreements for residential and nonresidential spaces. Prior to recordation of any final map, the developer shall record CCRs approved by the City of Roseville that include this requirement.

Mitigation Measure 3.4-3c: Installation of Electric Vehicle Charging Stations Meeting the Tier 2 Voluntary Requirements of the Most Recent CALGreen Code

Prior to the issuance of building permits, the project applicant shall incorporate the appropriate number of electric vehicle (EV) charging equipment to meet the most recent Tier 2 requirements of Part 6 of the Title 24 California Building Code (CALGreen Code) in effect at the time of project construction. Compliance with the requirements shall be verified by the City of Roseville Development Services Department.

The EV charging Tier 2 requirements of the 2025 CALGreen Code (effective January 1, 2026) for each project component are as follows:

Residential Parking

In accordance with Section A.4.106.8.1 of the 2025 CALGreen Code, for each new one- and two-family dwellings and townhouses with attached private garages, a dedicated 208/240-volt branch circuit shall be installed in the raceway required by Section 4.1.06.4.1. The branch circuit and associated overcurrent protective device shall be rated at 40 amperes minimum. Other electrical components, including a receptacle or blank cover, related to this section shall be installed in accordance with the California Electrical Code.

In accordance with Section A4.106.8.2 of the 2025 CALGreen Code, new multifamily development projects shall meet the following requirements:

- Section A4.106.8.2.1.1b: Raceway capacity requirements. To allow for future upgrades to the electrical conductors serving low power Level 2 EV charging receptacles, the listed raceway serving such receptacles shall be sized to allow the installation of a dedicated 208/240-volt 40-ampere branch circuit. When no raceway is used, the conductors shall be sized to accommodate a 208/240-volt 40-ampere receptacle.

- Section A4.106.8.2.1.2b: Multifamily parking facilities with unassigned or common use parking. In addition to the low power level 2 EV charging receptacle requirements of Section A4.106.8 (Tier 1, subsection 1), forty (40) percent of the total number of parking spaces shall be equipped with Level 2 EV chargers and shall be made available for use by all residents or guests.

Nonresidential Parking

As discussed in Section 2.4.4, "Circulation and Parking," a surface parking lot would provide parking and circulation for the innovation and commercial uses and a total of 1,718 parking stalls would be provided. Pursuant to the 2025 CALGreen Code Table A5.106.5.3.3, because the project would provide over 201 parking spaces, to comply with Tier 2 voluntary requirements, 45 percent of the actual parking spaces shall be EV-capable. Based on the 2025 CALGreen nonresidential Tier 2 standards, this equates to a total requirement of 774 EV-capable spaces. In addition to EV-capable spaces, Table A5.106.5.3.3 of the 2025 CALGreen Code includes requirements for the number of required EV charging stations (EVCS). Although the actual tenants are not yet known, and thus it is not known whether uses would be office and retail or another land use type, the office and retail requirements for EVCS are applied in this mitigation as they would result in more EVCS. Based on Table A5.106.5.3.3 of the 2025 CALGreen nonresidential standards, 75 percent of the 774 EV capable spaces shall be EVCS, which equates to a total requirement of 581 required EVCS.

Project applicants for innovation and commercial land uses shall be responsible for implementing one EVCS per every 1,372 square feet of new development (calculated by dividing the total floor area of proposed nonresidential development [1,062,041 square feet] by the required number of EV capable spaces [774]) until 581 EVCS have been installed then all subsequent parking stalls shall be EV capable. Implementation of this mitigation measure would result in an approximately 2.4 percent reduction in daily ROG emissions, bringing the project-generated ROG emissions to approximately 99.5 lb/day (see Appendix B for detailed modeling inputs and calculations).

Mitigation Measure 3.4-3d: Truck Loading Dock Electrification and Idling Control

If refrigerated trucks are needed for delivery of materials, prior to the issuance of a building permit for any project phase, the project applicant shall show on the submitted building elevations that, at a minimum, 10 percent of all truck loading and unloading docks shall be equipped with one 110/208-volt power outlet for every two dock doors. Diesel trucks idling for more than the State-required time of 5 minutes shall be required to connect to the 110/208-volt power to run any auxiliary equipment. A minimum 2-foot by 3-foot sign that indicates "Diesel engine idling shall be limited to a maximum of 5 minutes" shall be included with the submittal of building plans.

Mitigation Measure 3.4-3e: Implement a Mandatory Commute Reduction Program for Employees

This mitigation measure shall apply to all nonresidential uses. The project applicant shall require that future tenants provide a Mandatory Commute Reduction Program for employees that must include all of the following measures as described in the California Air Pollution Control Officers Association (CAPCOA) Handbook for Analyzing GHG Emission Reductions, Assessing Climate Vulnerabilities, and Advancing Health and Equity (Handbook):

- Commute Trip Reduction Marketing: The project applicant shall develop and implement a marketing strategy to promote a commute reduction program. The following features (or similar alternatives) shall be provided:
  - on-site or online commuter information services,
  - employee transportation coordinators, and
  - guaranteed ride home service.
- Provide Ridesharing Program: The project applicant shall develop and implement a ridesharing program. The following strategies provide examples of a multifaceted approach for promoting a ridesharing program:
  - designating a certain percentage of desirable parking spaces for ridesharing vehicles,
  - designating adequate passenger loading and unloading and waiting areas for ridesharing vehicles, and
  - providing an app or website for coordinating rides.

- Provide End-of-Trip Bicycle Facilities: The project applicant shall install and maintain end-of-trip bicycle facilities for employee use. End of trip facilities include bike parking, bike lockers, showers, and personal lockers.

Mitigation Measure 3.4-3f: Reduce Ozone Precursors through Off-site Measures

The project would exceed the operational ROG threshold (i.e., maximum of 55 pounds per day of ROG). Table 3.4-6 depicts the ROG emissions generated by each component of the project as well as the proportion of ROG emissions generated that would need to be mitigated.

Approximately 53 lb/day of ROG would be generated by the residential component of the project (25.2 lb/day of consumer products, 2.6 lb/day of architectural coating, 10.5 lb/day of landscaping, and 14.8 lb/day of mobile emissions) and approximately 52 lb/day of ROG would be generated by the nonresidential components of the project (105.1 lb/day total ROG emissions – 53.0 lb/day of residential ROG emissions). After implementation of onsite mitigation measures (i.e., Mitigation Measure 3.4-3c) the remaining ROG emissions are 102.2 lb/day. The estimated total amount of excess emissions is approximately 48 lb/day for ROG (based on subtracting the mitigated modeled emissions [102.2 lb/day] from the threshold [55 lb/day] and rounding up). The estimated total amount of excess residential ROG emissions is approximately 25 lb/day (based on the proportion of residential ROG emissions [53 lb/day] to total ROG emissions [103 lb/day] after mitigation). The estimated total amount of excess nonresidential ROG emissions is approximately 23 lb/day (based on the proportion of nonresidential ROG emissions [50 lb/day] to total ROG emissions [103 lb/day]). Pursuant to PCAPCD recommendations and to mitigate the project's further contribution to the long-term emission of pollutants, the applicant shall implement one of the following off-site mitigation measures:

- Establish mitigation off-site within the same region (i.e., east or west Placer County) by participating in an off-site mitigation program, coordinated through PCAPCD. Examples include but are not limited to: participation in a "Biomass" program that provides emissions benefits; retrofitting, repowering, or replacing heavy duty engines from mobile sources (e.g., buses, construction equipment, on road haulers); or other programs that the project proponent may propose to reduce emissions.
- Participate in PCAPCD's Off-site Mitigation Fee Program by paying the equivalent amount of money, which is equal to the project's contribution of pollutants (i.e., ROG) which exceeds the project-level threshold of 55 lbs/day for ROG for a one-year period multiplied by the current cost to mitigate one ton of ozone precursor emissions of $25,025, effective July 2025. Based on the emission estimates after implementation of Mitigation Measure 3.4-3c, daily ROG thresholds would be exceeded by approximately 48 lbs/day, for a total of approximately 8.76 tons/year of ozone precursors that need to be mitigated. Residential uses account for approximately 52 percent of ROG emissions after mitigation. Thus, approximately 4.52 tons/year (52 percent of 8.76 tons) of ozone precursors associated with the residential component of the project would need to be mitigated (refer to Table 3.4-6). The total number of residential dwelling units proposed under the project is 664 (529 single-family residential units and up to 135 multi-family residential units). Thus, the cost of mitigation for each future housing developer would be based on the number of units, equivalent to $170/dwelling unit.
- Approximately 4.24 tons/year of ozone precursors associated with the nonresidential component of the project would need to be mitigated. The total area for the nonresidential component of the project is 1,062,041 sf of building. Thus, the cost of mitigation for each future nonresidential tenant would be based on the size of the building that each tenant occupies and operates, equivalent to $0.10/square foot.
- In lieu of paying the mitigation fee established above, prior to recordation of the final tentative map plan for any future building to be constructed, the applicant may choose to re-assess the mitigation fee that can be determined based on project-specific operations and more specific details pertaining to the level of on-site mitigation measures incorporated into the project. To satisfy this mitigation requirement, the applicant shall hire a qualified professional to quantify on-site and off-site operational criteria air pollutants and ozone precursors and shall provide substantial evidence to the City for approval. Based on this refined analysis, if operational emissions still exceed PCAPCD thresholds of significance, the mitigation fee shall be recalculated based on the cost to mitigate ozone precursors at that time. Refer to Table 3.4-6 for mitigation fee calculations.

Table 3.4-6 Operation-Related ROG Emissions and Mitigation Cost Calculations

	Unmitigated	Mitigated
Emissions Summary		
Total ROG	104.57 (lbs/day)	102.24 (lbs/day)
Residential	52.74 (lbs/day)	52.74 (lbs/day)
Non-Residential	51.82 (lbs/day)	49.50 (lbs/day)
Threshold	55 (lbs/day)	55 (lbs/day)
Excess Emissions (lbs/day) (Mitigated ROG emissions - Threshold)		
Total	-	48 (lbs/day)
Residential	-	24.76 (lbs/day)
Nonresidential	-	23.24 (lbs/day)
Excess Emissions (mitigated-threshold [tpy])		
Total	-	8.76 tpy
Residential	-	4.52 tpy
Nonresidential	-	4.24 tpy
Mitigation Fee Calculations[1]		
Annual cost per ton	$25,025	
Total Cost: Residential Units ($25,025 x 4.52 tpy)	-	$113,144
Total Cost: Nonresidential Units ($25,025 x 4.24 tpy)		$106,075
Development Units		
Dwelling Units		664 dwelling units
Square feet of nonresidential land uses	-	1,062,041 sf
Fee Per Unit		
Fee per dwelling unit ($113,144/664 dwelling units)	-	$170
Fee per square foot ($106,075/1,062,041 sf)	-	$0.10

Notes: ROG = reactive organic gases; lb/day = pounds per day; tpy = tons per year; sf = square feet.

[1] Refer to Appendix B for precise calculations.

Source: Modeled by Ascent in 2026.

Significance after Mitigation

Mitigation Measure 3.4-3a would help reduce the amount of ROG emitted due to operational activities by educating occupants about alternative consumer products that have lower ROG/VOC content and Mitigation Measure 3.4-3b would require the use of electric landscaping equipment for maintenance activities within the project site. Mitigation Measure 3.4-3d would require electrification of any proposed truck loading dock as well as idling control. Mitigation Measure 3.4-3e would require the implementation of a mandatory commute reduction program for employees. However, because the actual future tenants are unknown at this time, the level to which each individual on-site mitigation measure can be implemented is unknown; thus, emissions reductions from Mitigation Measures 3.4-3a, 3.4-3b, 3.4-3d, and 3.4-3e were not quantified for this analysis.

Implementation of Mitigation Measure 3.4-3c would provide the necessary EV charging infrastructure to demonstrate compliance with the Tier 2 requirements of the CALGreen Code in effect at the time of project development. This measure is required to demonstrate the project is doing its "fair share" in assisting the state in meeting its long-term GHG reduction and air quality goals. Implementation of Mitigation Measure 3.4-3c would result in an approximate 2.4 percent reduction in ROG emissions (see Appendix B for detailed calculations). Specifically, after implementation of Mitigation Measure 3.4-3c, the remaining ROG emissions to offset would be approximately 45 lb/day. These excess

emissions would be offset by the off-site mitigation program (Mitigation Measure 3.4-3f), through which the applicant and future tenants would pay a fee to achieve PCAPCD thresholds of significance for a one-year period. The off-site mitigation program fees are used to fund emissions reductions projects such as the replacement of non-EPA certified woodstoves with EPA-certified appliances, replacement of older high-emissions diesel engines used by transit operators with new low-emission or zero-emission vehicles, and other projects that result in long-term operational emissions reductions. With incorporation of Mitigation Measures 3.4-3a through 3.4-3f, project-generated operational emissions of ozone precursors would be reduced. However, given that the actual future tenants are unknown at this time and the long-term buildout or full occupancy of the project, it cannot be guaranteed at this time that offsets would be available in the amounts needed at the time they are needed to reduce emissions to the levels necessary. Thus, this impact would be **significant and unavoidable**.

Impact 3.4-4: Expose Sensitive Receptors to Substantial Pollutant Concentrations

An HRA was conducted to assess potential health risk exposure from construction and operation of the project. The health risks were quantified as construction only risks, operation only risks, and combined construction and operation risks following the Office of Environmental Health Hazard Assessment Guidance (OEHHA 2015). In the construction only scenario, the cancer risk was found to be greater than 10 in one million, which is above the PCAPCD threshold of significance. The construction Health Hazard Index (HHI), which indicates chronic noncancer risk, was found to be less than one. The operational cancer risk was also found to be greater than 10 in one million and thus would also exceed the PCAPCD threshold of significance. The operational HHI was found to be less than one. Therefore, this impact would be **significant**.

The nearest sensitive receptors that could be adversely affected by construction and operation activities are future residences which will be constructed as part of the project, current and future residences associated within Creekview Specific Plan area east of the project site, West Roseville Specific Plan area south of the project site, and Amoruso Ranch Specific Plan area residences to the northeast. These areas are in various stages of development and will include a total of approximately 13,630 residential units at buildout. Because the project would be built out in distinct phases over time, construction and operational emissions sources were modeled separately using different source parameters appropriate for each phase. Construction and operational modeling inputs and assumptions are described separately below, then summarized together.

Construction

Construction-related activities would result in temporary, intermittent emissions of diesel PM from the exhaust of off-road, heavy-duty diesel equipment used for site preparation, grading, trenching, building construction, paving and architectural coating, and other miscellaneous activities. On-road diesel-powered haul trucks traveling to and from the construction areas to deliver materials and equipment would also contribute to diesel PM and would affect the receptors around haul routes. Project construction would occur in phases with the construction of the first phase starting in 2027. Because construction of subsequent phases is dependent on market demand, the duration of overall construction activities for each phase was approximate and was also informed by default durations in CalEEMod.

The Maximum Exposed Individual Receptor (MEIR) would be identical to the Point of Maximum Impact (PMI) as discrete receptors were modeled only at future and existing residential land uses, parks, and schools. Therefore, the modeled outputs (including the PMI) are reflective of actual on-the-ground receptors. The MEIR during construction would occur along Alderwood Place, because it is located directly east of where Phase R1 (see Chapter 2, "Project Description," for phasing locations) would occur. Refer to Section 3.4.3, "Methodology," for details about the modeling approach for construction and Appendix B for detailed modeling inputs and outputs. A summary of results of the modeling for construction is presented in Table 3.4-7.

Table 3.4-7 Summary of Maximum Unmitigated Construction Health Risk

Phase/Threshold	MEIR[1] Cancer Risk (Chances in a Million)	MEIR[1] Chronic Noncancer Risk (HHI)
Construction	10.4	0.14
Threshold	10	1
Threshold Exceeded?	Yes	No

Notes: MEIR = Maximum Exposed Individual Receptor; HHI = Health Hazard Index.

[1] For the location of the MEIR, refer to coordinates provided in the HRA memo contained in Appendix B.

Source: Modeling conducted by Ascent in 2025.

Based on the emissions modeling conducted, the cancer risk was found to be more than 10 in one million, which is above the PCAPCD threshold of significance; and the HHI, which indicates chronic noncancer risk was found to be less than one, as shown in Table 3.4-7.

Operations

Operational activity was modeled in the HRA to determine the maximum future risk exposure associated with full operation of the project. Project operation would result in the generation of long-term operational emissions of diesel PM and various TACs as a result of mobile and area-wide sources. Mobile sources would generate diesel PM and would include light-duty and heavy-duty vehicles coming in and out of the project site. Area-wide sources would generate diesel PM from the use of generators and would generate various TAC emissions from the use of the autobody shop paint booths and the emission losses from the wet labs.

The MEIR would occur during operations at a future residential development combining with risk associated with construction during construction Phase R2. Refer to Section 3.4.3, "Methodology," for details about the operation modeling approach and Appendix B for detailed modeling inputs and outputs. A summary of results of the modeling for project operation at full buildout (2038) is presented in Table 3.4-8.

Table 3.4-8 Summary of Maximum Unmitigated Operation Health Risk

Phase/Threshold	MEIR Cancer Risk (Chances in a Million)	MEIR[1] Chronic Noncancer Risk (HHI)	MEIR[1] Acute HHI
Full Operation (2038)	14.3	0.005	0.006
Threshold	10	1	1
Threshold Exceeded?	Yes	No	No

Notes: MEIR = Maximum Exposed Individual Receptor; HHI = Health Hazard Index.

[1] For the location of the MEIR, refer to coordinates provided in the HRA memo contained in Appendix B.

Source: Modeling conducted by Ascent in 2025.

Based on the emissions modeling conducted, the cancer risk was found to be greater than 10 in one million and the chronic and acute noncancer risk were less than one, as shown in Table 3.4-8. Specifically, nearby sensitive receptors would be exposed to an incremental increase in cancer risk of 14.3 chances in one million, which would exceed the PCAPCD health risk threshold for cancer risk of 10 in one million.

Combined Construction and Operations

As described above, health risk was assessed for the construction and operations phases of the project, separately. In addition, to provide an absolute worst-case scenario, where sensitive receptors could potentially be exposed to TACs from both construction and operational activities, a combined construction and operational scenario was modeled. It is important to note that because construction health risk exposure (Table 3.4-7) and operational health risk exposure occur (Table 3.4-8) at two different receptors, they are not additive. This scenario may not occur if, for example, residents living in one home now move out within the next 30 years of project buildout and, therefore, are not actually exposed to both construction and operational emissions. Nevertheless, this scenario assumes that any one

receptor could potentially be exposed to diesel PM exhaust during all phases of construction and all on- and off-site emissions sources during full operations. When combined, the maximum risk level at the MEIR would be 21.2 chances in one million of excess cancer risk, exceeding the cancer risk threshold of 10 chances in one million.

During operations, the MEIR would occur at one of the project's future single-family residences constructed during Phase R2. Noncancer risk would not exceed PCPACD thresholds. Refer to Table 3.4-9 and Figure 3.4-2 for risk results from this combined scenario.

Table 3.4-9 Calculated Combined Construction and Operations Cancer and Chronic Noncancer Risk

Phase/Threshold	MEIR[1] Cancer Risk (1/Million)	MEIR[1] Chronic HHI	MEIR[1] Acute HHI
Combined Construction and Operation	21.2	0.14	0.01
Threshold	10	1	1
Threshold Exceeded?	Yes	No	No

Notes: MEIR = Maximum Exposed Individual Receptor; HHI = Health Hazard Index.

[1] For the location of the MEIR, refer to coordinates provided in the HRA memo contained in Appendix B.

Source: Modeled by Ascent in 2025.

Summary

As discussed above, construction and operation alone would each exceed the threshold of 10 chances in one million for incremental increase in cancer risk exposure but would not exceed the noncancer threshold of one HHI. In addition, when construction and operational-related emissions are combined, the MEIR would be subject to increases in risk exposure of 21.2 chances in one million, which is above the threshold of 10 chances in one million. Construction and operational emissions combined would not result in an exceedance of the noncancer HHI risk threshold of one. Because project construction, operation, and the combined effect of project construction with full operation (2038) would exceed the PCAPCD cancer risk threshold of 10 chances in one million, this impact would be **significant**.

Mitigation Measures

Mitigation Measure 3.4-4a: Implement Clean Construction Fleet

During all phases of project construction, all off-road diesel-powered construction equipment greater than 25 horsepower shall meet EPA's Tier 4 (final) emission standards, as defined in 40 CFR 1039, and comply with the appropriate test procedures and provisions contained in 40 CFR Parts 1065 and 1068. This measure can also be achieved by using battery-electric off-road equipment as it becomes available. The project applicant shall require the primary construction contractor(s) and its subcontractor(s) to submit copies of the valid Certificate of Reported Compliance for their fleets prior to awarding a contract. In addition, all construction equipment shall be subject to inspection for regulatory compliance. The City shall ensure compliance with this measure prior to issuance of grading permits.

Mitigation Measure 3.4-4b: Install Tier 4 Generators

To reduce operational-related TAC emissions associated with the project, the project applicant shall ensure that all primary and backup generators used during project operation are certified to meet Tier 4 (final) standards. Prior to issuance of a certificate of occupancy, the applicant shall submit to the City of Roseville and PCAPCD documentation from the equipment supplier or manufacturer confirming that each installed generator meets Tier 4 (final) standards. The documentation shall include unit model numbers and serial numbers. During operation the project operator shall maintain the generators in accordance with manufacturer specifications and shall keep service records available for inspection by the City and PCAPCD.

In addition to the Tier 4 requirements specified above, compliance with "Data Center Alternative Backup Power Technologies" detailed under Mitigation Measure 3.5-1a shall be required for the data center use specifically.

Significance after Mitigation

Applying Mitigation Measure 3.4-4a would substantially reduce diesel PM and NOx emissions associated with construction activities. Using the modeling conducted for the project, which applied statewide construction fleet emissions factors, and applying Tier 4 emissions rates to all equipment larger than 25 horsepower, construction health risk exposure at the MEIR would be reduced from 10.4 chances in one million to 2.3 chances in one million for developing cancer, which is below the PCAPCD thresholds of 10 chances in one million. Implementation of Mitigation Measure 3.4-4b would reduce operational emissions associated with the use of generators by requiring the use of Tier 4 equipment and regular equipment maintenance. Note that while alternatives to diesel generators may ultimately be used resulting in even lower TAC emissions, this analysis applies the known Tier 4 emissions rates to the mitigated calculations, as future emissions rates would depend on the specific technology chosen, which is not known now. Operational health risk exposure at the MEIR would be reduced from 14.3 chances in one million to 5.9 chances in one million, which is below the threshold of 10 chances in one million. Finally, with mitigation, the combined construction and operational-related health risk exposure at the MEIR would be reduced to 7.7 chances in one million, which is also below the threshold of 10 chances in one million, as indicated in Table 3.4-10.

Table 3.4-10 Calculated Mitigated Combined Construction and Operations Cancer and Chronic Noncancer Risk

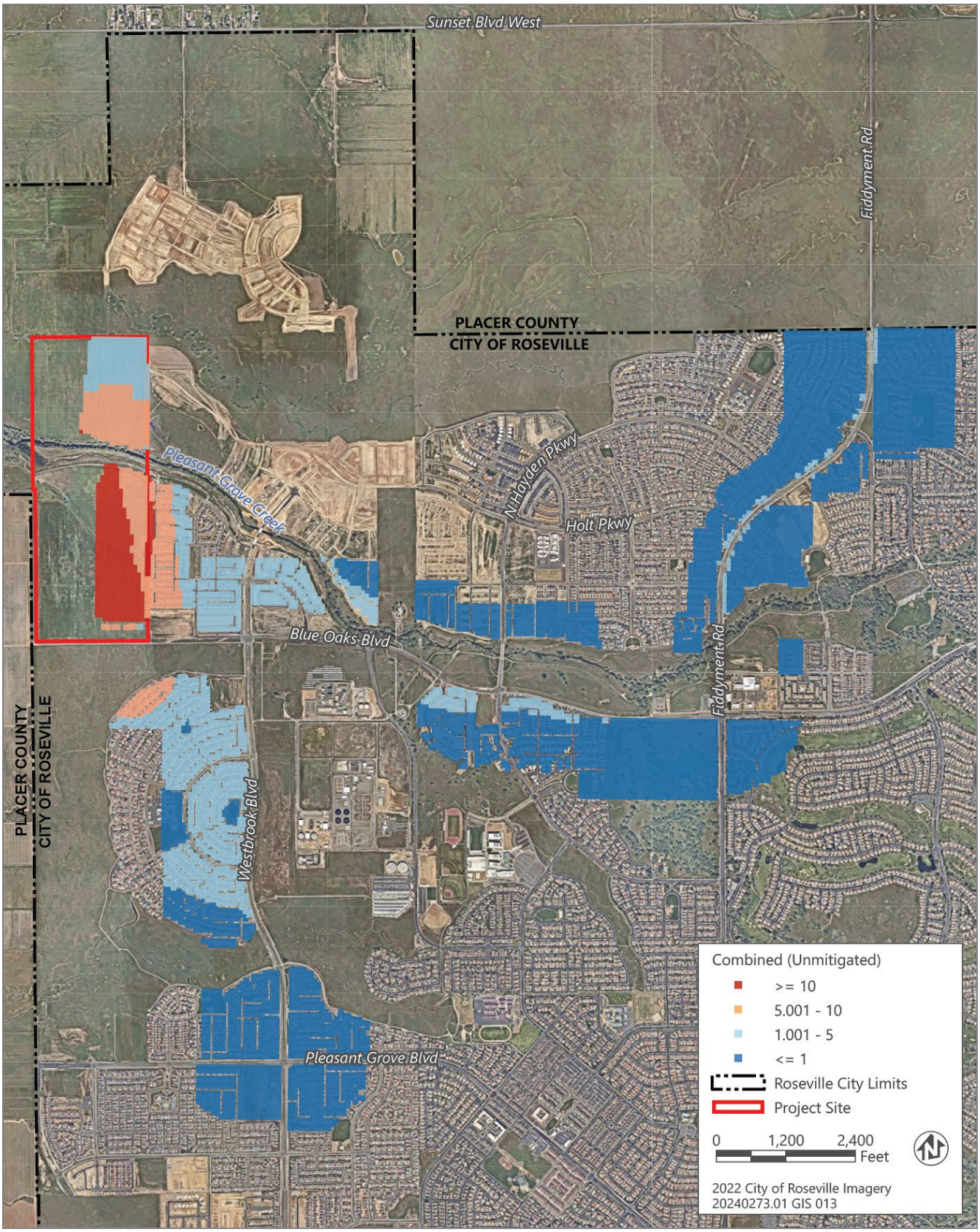
Phase/Threshold	MEIR[1] Cancer Risk (1/Million)	MEIR[1] Chronic Noncancer Risk (HI)	MEIR[1] Acute HHI
Combined Mitigated Construction and Operation	7.7	0.044	0.01
Threshold	10	1	1
Threshold Exceeded?	No	No	No

Notes: MEIR = Maximum Exposed Individual Receptor; HHI = Health Hazard Index.

[1] For the location of the MEIR, refer to coordinates provided in the HRA memo contained in Appendix B.

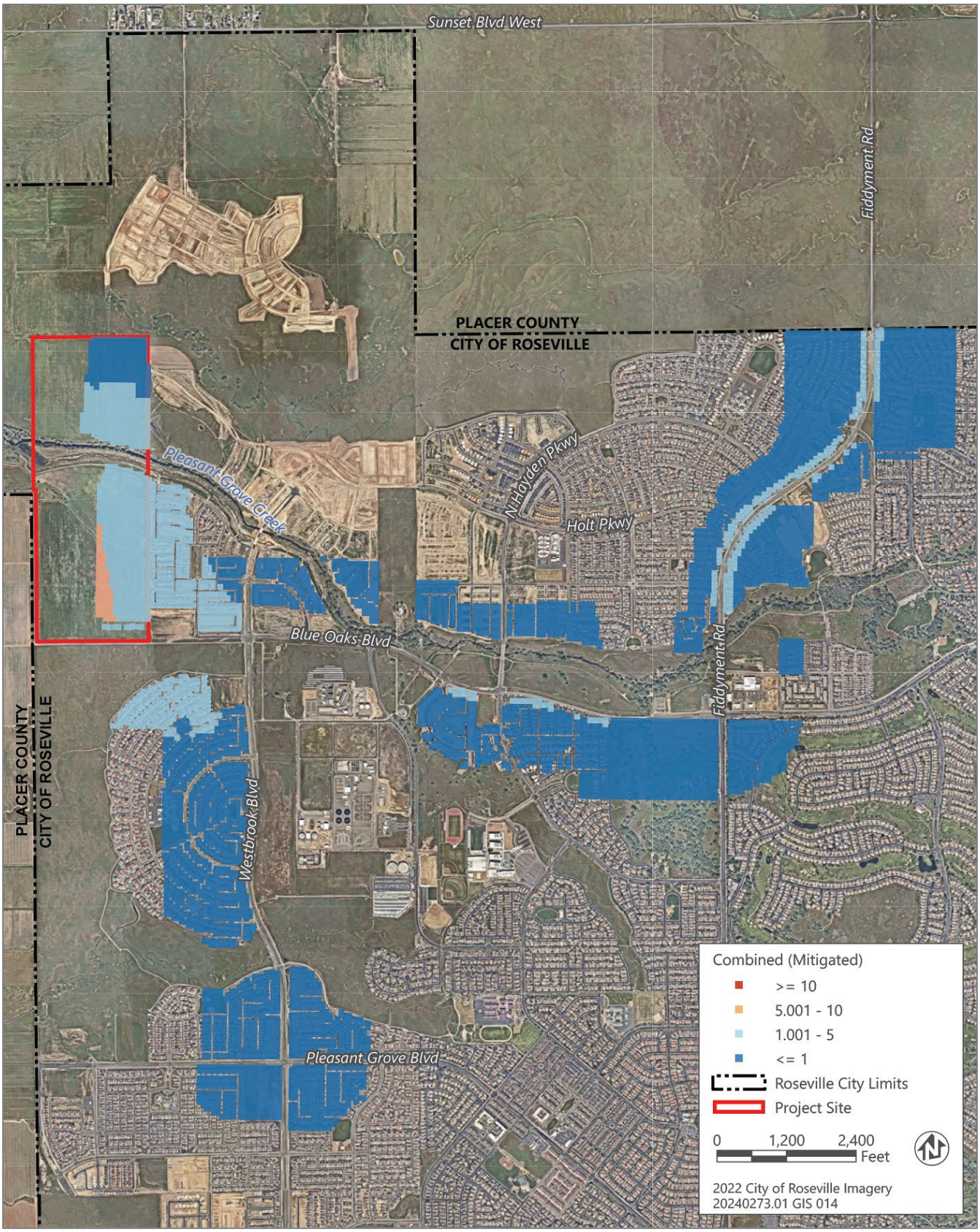
Source: Modeled by Ascent in 2025.

Figure 3.4-3 shows the risk results from the combined construction and operational scenario, after mitigation is applied. Therefore, construction and operational emissions combined would not result in an exceedance of noncancer risk thresholds at the MEIR. With incorporation of Mitigation Measures 3.4-4a and 3.4-4b, this impact would be reduced to a **less-than-significant** level.



Source: Modeled by Ascent in 2025.

Figure 3.4-2 Unmitigated Cancer Risk for Project Construction and Operations



Source: Modeled by Ascent in 2025.

Figure 3.4-3 Mitigated Cancer Risk for Project Construction and Operations

Impact 3.4-5 Create Objectionable Odors Affecting a Substantial Number of People

Proposed uses under the project include residential, retail, medical offices, and innovation center uses, as well as parks, open space, and trails. During construction, the project would introduce new temporary odor sources, such as temporary diesel exhaust emissions from the construction equipment and movement of trucks. However, these odor sources would be temporary, intermittent, and dissipate rapidly from the source. The proposed land uses would introduce new odors to the area associated with the operation of innovation center uses and diesel-related exhaust from trucks traveling to the loading docks. The new odor sources would be similar to existing sources that operate around the project site and would also dissipate rapidly. For these reasons, this impact would be **less than significant**.

The occurrence and severity of odor impacts depend on numerous factors, including the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of the affected receptors. While offensive odors rarely cause any physical harm, they still can be very unpleasant, leading to considerable distress among the public and often generate citizen complaints to local governments and regulatory agencies. Due to the subjective nature of odor, impacts are generally evaluated qualitatively, based on the anticipated odor sources associated with land use development and its proximity to nearby sensitive uses.

The predominant source of power for construction equipment is diesel engines. Exhaust odors from diesel engines, as well as emissions associated with paving and the application of architectural coatings could be considered offensive to some individuals. The generation of these odor emissions would vary greatly on a day-to-day basis depending on the type of construction activities. Minor odors from the use of heavy-duty diesel equipment would be intermittent and temporary and would dissipate rapidly from the source with an increase in distance. Application of architectural coatings would also be a source of offensive odors from volatile organic compounds. However, because the application of architectural coatings would be required to comply with PCAPCD Rule 218 (Architectural Coatings) that requires VOC limits on coatings used, potential construction odors would be minimized. The nearest existing sensitive receptors in the vicinity of the project site are residences located approximately 50 feet east of the project site in the Creekview Specific Plan area and residences located approximately 600 feet south of the project site in the West Roseville Specific Plan area. Given the temporary nature of construction activities and the distance of the sensitive receptors from the project site, project construction is not anticipated to result in an odor-related impact during the construction phases of the project.

PCAPCD identifies land uses typically associated with potential odor impacts including wastewater treatment plants, sanitary landfills, composting/green waste facilities, recycling facilities, chemical manufacturing plants, painting/coating operations, agricultural operations, and slaughterhouse/food packaging plants (PCAPCD 2017: 63-64). Operational odor sources associated with the project would include diesel exhaust from idling trucks, odors associated with building and open space maintenance (e.g., lawn mowers), and potential odors associated with the force main, which would be constructed from the lift station along Blue Oaks Boulevard and Westbrook Boulevard to pump flows to a new sewer manhole on the west side of Westbrook Boulevard. None of these uses are identified as land uses considered to generate significant odor impacts pursuant to PCAPCD guidelines.

The innovation buildings would have optionality for a limited number of loading docks. During operation, diesel-fueled trucks could be moving in and out of the innovation land uses but would not be idling for an extended period (i.e., no longer than five minutes). In addition, the loading docks would be strategically configured to be internal to the buildings, offering an additional buffer from nearby sensitive receptors. Thus, odors associated with trucks operating within and around innovation uses would be temporary, minimized, and dissipate rapidly from the source. As discussed in Chapter 2, "Project Description," a force main would be constructed from the lift station along Blue Oaks Boulevard and Westbrook Boulevard to pump flows to a new sewer manhole on the west side of Westbrook Boulevard. The force main would be constructed in accordance with applicable design and construction standards which would ensure proper containment to prevent the discharge of severe odors. Odors associated with force main maintenance would be temporary and would also dissipate rapidly from the source. For these reasons, this impact would be **less than significant**.

Mitigation Measures

No mitigation is required.