

## 4.2 AIR QUALITY

This chapter describes the regulatory framework and existing conditions of the City of San Mateo Environmental Impact Report (EIR) Study Area and evaluates the potential air quality impacts from adopting and implementing the proposed General Plan 2040 and proposed Climate Action Plan (CAP) update, and from future development and activities that could occur under the proposed project. A summary of the relevant regulatory framework and existing conditions is followed by a discussion of potential impacts and cumulative impacts from implementation of the proposed project. Greenhouse gas (GHG) emissions impacts are addressed in Chapter 4.7, *Greenhouse Gas Emissions*, of this Draft EIR.

The evaluation in this chapter is based on the methodology recommended by the Bay Area Air Quality Management District (BAAQMD) for plan-level analysis. The analysis focuses on air pollution from regional emissions and localized pollutant concentrations. In this chapter “emissions” refers to the actual quantity of pollutant, measured in pounds per day (lbs/day) and “concentrations” refers to the amount of pollutant material per volumetric unit of air. Concentrations are measured in parts per million (ppm), parts per billion (ppb), or micrograms per cubic meter ( $\mu\text{g}/\text{m}^3$ ).

The analysis in this chapter is based on the projected buildout of the proposed project. The projected buildout is modeled using the California Air Resources Board’s (CARB) 2021 Emissions Factor Model (EMFAC2021), the Off-Road Emissions Factor Model (OFFROAD2021), natural gas use provided by Pacific Gas and Electric (PG&E) compiled for the City’s recent GHG emissions inventory, electricity use provided by PG&E and Peninsula Clean Energy (PCE) compiled for the City’s recent GHG emissions inventory, and trip generation and vehicle miles traveled (VMT) provided by Kittelson and Associates. Trip generation is available as Appendix D, *Noise Data*, and VMT calculations are in Chapter 4.15, *Transportation*, of this Draft EIR. The criteria air pollutant emissions modeling is included in Appendix C, *Air Quality and Greenhouse Gas Emissions Data*, of this Draft EIR.

### 4.2.1 ENVIRONMENTAL SETTING

#### 4.2.1.1 AIR POLLUTANTS OF CONCERN

##### Criteria Air Pollutants

Pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and State law under the federal Clean Air Act (“National”) and California Clean Air Act, respectively. The pollutants emitted into the ambient air by stationary and mobile sources are categorized as primary and/or secondary pollutants. Primary air pollutants are emitted directly from a specific source; secondary air pollutants occur through chemical reactions. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxides (NO<sub>x</sub>), sulfur dioxide (SO<sub>2</sub>), coarse inhalable particulate matter (PM<sub>10</sub>), fine inhalable particulate matter (PM<sub>2.5</sub>), and lead (Pb) are primary air pollutants. Of these, CO, SO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub> are “criteria air pollutants,” which means that ambient air quality standards (AAQS) have been established for them. ROG and NO<sub>x</sub> are criteria pollutant precursors that form secondary criteria air pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O<sub>3</sub>) and nitrogen dioxide (NO<sub>2</sub>) are the principal secondary pollutants. Each of the primary and secondary criteria air

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pollutants and its known health effects are described next, and Table 4.2-1, *Criteria Air Pollutant Health Effects Summary*, summarizes the potential health effects associated with the criteria air pollutants.

- **Carbon Monoxide (CO)** is a colorless, odorless gas produced by incomplete combustion of carbon substances, such as gasoline or diesel fuel. CO is a primary criteria air pollutant. CO concentrations tend to be the highest during winter mornings with little to no wind, when surface-based inversions trap the pollutant at ground levels. The highest ambient CO concentrations are generally found near traffic-congested corridors and intersections. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces its oxygen-carrying capacity. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses. Even healthy people exposed to high CO concentrations can experience headaches, dizziness, fatigue, unconsciousness, and even death.<sup>1</sup>
- **Reactive Organic Gases (ROGs)/Volatile Organic Compounds (VOCs)** are compounds composed primarily of hydrogen and carbon atoms. Internal combustion associated with motor vehicle usage is the major source of ROGs. Other sources of ROGs include evaporative emissions from paints and solvents, the application of asphalt paving, and the use of household consumer products such as aerosols. Adverse effects on human health are not caused directly by ROGs, but rather by reactions of ROGs to form secondary pollutants such as O<sub>3</sub>. There are no AAQS established for ROGs. However, because they contribute to the formation of O<sub>3</sub>, BAAQMD has established a significance threshold for this pollutant.
- **Nitrogen Oxides (NO<sub>x</sub>)** are a by-product of fuel combustion and contribute to the formation of O<sub>3</sub>, PM<sub>10</sub>, and PM<sub>2.5</sub>. The two major components of NO<sub>x</sub> are nitric oxide (NO) and NO<sub>2</sub>. The principal component of NO<sub>x</sub> produced by combustion is NO, but NO reacts with oxygen to form NO<sub>2</sub>, creating the mixture of NO and NO<sub>2</sub> commonly called NO<sub>x</sub>. NO<sub>2</sub> absorbs blue light; the result is a brownish-red cast to the atmosphere and reduced visibility. NO is a colorless, odorless gas formed from atmospheric nitrogen and oxygen when combustion takes place under high temperature and/or high pressure.<sup>5</sup> NO<sub>2</sub> acts as an acute irritant and in equal concentrations is more injurious than NO. At atmospheric concentrations, however, NO<sub>2</sub> is only potentially irritating. There is some indication of a relationship between NO<sub>2</sub> and chronic pulmonary fibrosis. Some increase in bronchitis in children (2 and 3 years old) has also been observed at concentrations below 0.3 parts per million (ppm).
- **Sulfur Dioxide (SO<sub>2</sub>)** is a colorless, pungent, irritating gas formed by the combustion of sulfurous fossil fuels. It enters the atmosphere as a result of burning high-sulfur-content fuel oils and coal and from chemical processes at chemical plants and refineries. Gasoline and natural gas have very low sulfur content and do not release significant quantities of SO<sub>2</sub>. When SO<sub>2</sub> forms sulfates (SO<sub>4</sub>) in the atmosphere, together these pollutants are referred to as sulfur oxides (SO<sub>x</sub>). Thus, SO<sub>2</sub> is both a primary and secondary criteria air pollutant. At sufficiently high concentrations, SO<sub>2</sub> may irritate the

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<sup>1</sup> Bay Area Air Quality Management District, April 2017, *California Environmental Quality Act: Air Quality Guidelines*, [https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en), accessed May 25, 2023.

upper respiratory tract. At lower concentrations and when combined with particulates, SO<sub>2</sub> may do greater harm by injuring lung tissue.<sup>2</sup>

- **Suspended Particulate Matter (PM<sub>10</sub>)** consists of finely divided solids or liquids such as soot, dust, aerosols, fumes, and mists. In the San Francisco Bay Area Air Basin (SFBAAB), most particulate matter is caused by combustion, factories, construction, grading, demolition, agricultural activities, and motor vehicles. Inhalable coarse particles, or PM<sub>10</sub>, include particulate matter with an aerodynamic diameter of 10 microns (i.e., 10 millionths of a meter or 0.0004 inch) or less.

Extended exposure to particulate matter can increase the risk of chronic respiratory disease. PM<sub>10</sub> bypasses the body's natural filtration system more easily than larger particles and can lodge deep in the lungs. These health effects include premature death in people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, aggravated asthma, decreased lung function, and increased respiratory symptoms (e.g., irritation of the airways, coughing, or difficulty breathing). Motor vehicles are currently responsible for about half of particulates in the SFBAAB. Wood burning in fireplaces and stoves is another large source of fine particulates.<sup>7</sup>

- **Suspended Particulate Matter (PM<sub>2.5</sub>)** is another form of fine particulate matter that have an aerodynamic diameter of 2.5 microns or less (i.e., 2.5 millionths of a meter or 0.0001 inch). Fine particulate matter originates from a variety of sources, including fossil fuel combustion, residential wood burning and cooking, and natural sources, such as wildfires and dust. As mentioned above, extended exposure to particulate matter can cause negative effects on the respiratory system, such as triggering asthma attacks, aggravating bronchitis, and diminishing lung function. PM<sub>2.5</sub> studies have also found harm to the cardiovascular system and impacts on the brain, such as reduced cognitive function.

Local jurisdictions have the option of developing community risk reduction plans (CRRPs) to cumulatively reduce community wide PM<sub>2.5</sub> concentrations by following a comprehensive plan. Stationary source screening maps contain all the facilities in the Bay Area where a permit has been issued and that emit one or more toxic air contaminant (TACs). These stationary source screening maps can be used as a basis for community baseline conditions and to evaluate screening-level health risk impacts using the cavity effects equation. An alternative screening methodology is to use CARB's gas station screening tool to estimate cancer risk and chronic/acute hazards from gas station emissions.<sup>3</sup>

- **Ozone (O<sub>3</sub>)** is commonly referred to as "smog" and is a gas that is formed when ROGs and NO<sub>x</sub>, both by-products of internal combustion engine exhaust, undergo photochemical reactions in the presence of sunlight. O<sub>3</sub> is a secondary criteria air pollutant. O<sub>3</sub> concentrations are generally highest during the summer months when direct sunlight, light winds, and warm temperatures create favorable conditions to the formation of this pollutant. O<sub>3</sub> poses a health threat to those who

<sup>2</sup> Bay Area Air Quality Management District, May 2017, *California Environmental Quality Act: Air Quality Guidelines*, [https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en), accessed May 25, 2023.

<sup>3</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

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already suffer from respiratory diseases as well as to healthy people. O<sub>3</sub> levels usually build up during the day and peak in the afternoon hours. Short-term exposure can irritate the eyes and cause constriction of the airways. Besides causing shortness of breath, it can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema. Chronic exposure to high ozone levels can permanently damage lung tissue. O<sub>3</sub> can also damage plants and trees and materials such as rubber and fabrics.<sup>4</sup>

- **Lead (Pb)** is a metal found naturally in the environment as well as in manufactured products. The major sources of lead emissions have historically been mobile and industrial sources. As a result of the phasing out of leaded gasoline, metal processing is currently the primary source of lead emissions. The highest levels of lead in air are generally found near lead smelters. Other stationary sources are waste incinerators, utilities, and lead-acid battery manufacturers. Because emissions of lead are found only in projects that are permitted by BAAQMD, lead is not an air quality of concern for the proposed project.

**TABLE 4.2-1 CRITERIA AIR POLLUTANT HEALTH EFFECTS SUMMARY**

Pollutant	Health Effects	Examples of Sources
Carbon Monoxide (CO)	<ul style="list-style-type: none"> <li>▪ Chest pain in heart patients</li> <li>▪ Headaches, nausea</li> <li>▪ Reduced mental alertness</li> <li>▪ Death at very high levels</li> </ul>	<ul style="list-style-type: none"> <li>▪ Any source that burns fuel such as cars, trucks, construction and farming equipment, and residential heaters and stoves</li> </ul>
Ozone (O <sub>3</sub> )	<ul style="list-style-type: none"> <li>▪ Cough, chest tightness</li> <li>▪ Difficulty taking a deep breath</li> <li>▪ Worsened asthma symptoms</li> <li>▪ Lung inflammation</li> </ul>	<ul style="list-style-type: none"> <li>▪ Atmospheric reaction of organic gases with nitrogen oxides in sunlight</li> </ul>
Nitrogen Dioxide (NO <sub>2</sub> )	<ul style="list-style-type: none"> <li>▪ Increased response to allergens</li> <li>▪ Aggravation of respiratory illness</li> </ul>	<ul style="list-style-type: none"> <li>▪ Same as carbon monoxide sources</li> </ul>
Particulate Matter (PM <sub>10</sub> and PM <sub>2.5</sub> )	<ul style="list-style-type: none"> <li>▪ Hospitalizations for worsened heart diseases</li> <li>▪ Emergency room visits for asthma</li> <li>▪ Premature death</li> </ul>	<ul style="list-style-type: none"> <li>▪ Cars and trucks (particularly diesels)</li> <li>▪ Fireplaces and woodstoves</li> <li>▪ Windblown dust from overlays, agriculture, and construction</li> </ul>
Sulfur Dioxide (SO <sub>2</sub> )	<ul style="list-style-type: none"> <li>▪ Aggravation of respiratory disease (e.g., asthma and emphysema)</li> <li>▪ Reduced lung function</li> </ul>	<ul style="list-style-type: none"> <li>▪ Combustion of sulfur-containing fossil fuels, smelting of sulfur-bearing metal ores, and industrial processes</li> </ul>
Lead (Pb)	<ul style="list-style-type: none"> <li>▪ Behavioral and learning disabilities in children</li> <li>▪ Nervous system impairment</li> </ul>	<ul style="list-style-type: none"> <li>▪ Contaminated soil</li> </ul>

Sources: California Air Resources Board, 2023, Common Air Pollutants: Air Pollution and Health, <https://ww2.arb.ca.gov/resources/common-air-pollutants>, accessed May 25, 2023; South Coast Air Quality Management District, May 6, 2005, *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning*, <http://www.aqmd.gov/docs/default-source/planning/air-quality-guidance/complete-guidance-document.pdf>, accessed May 25, 2023.

<sup>4</sup> Bay Area Air Quality Management District, May 2017, *California Environmental Quality Act: Air Quality Guidelines*, [https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](https://www.baaqmd.gov/~media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en), accessed May 25, 2023.

## Toxic Air Contaminants

The California Health and Safety Code defines a toxic air contaminant (TAC) as “an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health.” A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 US Code Section 7412[b]) is a toxic air contaminant. People exposed to toxic air pollutants at sufficient concentrations and durations may have an increased chance of getting cancer or experiencing other serious health effects. These health effects can include damage to the immune system, as well as neurological, reproductive (e.g., reduced fertility), developmental, respiratory, and other health problems.<sup>5</sup> CARB has identified over 200 substances and groups of substances as TACs.<sup>6</sup> Additionally, CARB has implemented control measures for a number of compounds that pose high risks and show potential for effective control measures. The majority of the estimated health risks from TACs can be attributed to relatively few compounds. The most important compounds are particulate matter from diesel-fueled engines.

In 1998, CARB identified Diesel Particulate Matter (DPM) as a TAC. Previously, the individual chemical compounds in diesel exhaust were considered TACs. Almost all diesel exhaust particles are 10 microns or less in diameter. Because of their extremely small size, these particles can be inhaled and eventually trapped in the bronchial and alveolar regions of the lungs. According to BAAQMD, PM emitted from diesel engines contributes to more than 85 percent of the cancer risk in the SFBAAB. Cancer risk from TACs is highest near major DPM sources.<sup>7</sup>

### 4.2.1.2 REGULATORY FRAMEWORK

Federal, State, and local air districts have passed laws and regulations intended to control and enhance air quality. Land use in the EIR Study Area is subject to the rules and regulations imposed by the USEPA, CARB, the California Environmental Protection Agency (CalEPA), and BAAQMD. The regulatory framework that is potentially applicable to the proposed project is also summarized below.

## Federal and State Regulations

AAQS have been adopted at federal and state levels for criteria air pollutants. In addition, both the federal and state governments regulate the release of TACs. San Mateo is in the SFBAAB and is subject to the rules and regulations imposed by BAAQMD, the national AAQS adopted by the USEPA, and the California AAQS adopted by CARB. Federal, State, regional, and local laws, regulations, plans, or guidelines that are potentially applicable to the proposed project are summarized below.

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<sup>5</sup> United States Environmental Protection Agency, updated February 2020, Health and Environmental Effects of Hazardous Air Pollutants, <https://www.epa.gov/haps/health-and-environmental-effects-hazardous-air-pollutants>, accessed May 25, 2023.

<sup>6</sup> California Air Resources Board, 2022, CARB Identified Toxic Air Contaminants, <https://ww2.arb.ca.gov/resources/documents/carb-identified-toxic-air-contaminants>, accessed May 25, 2023.

<sup>7</sup> Bay Area Air Quality Management District, April 2014, *Improving Air Quality & Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective & Path Forward (2004-2013)*, [https://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE\\_Retrospective\\_April2014.ashx?la=en](https://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE_Retrospective_April2014.ashx?la=en), accessed May 25, 2023.

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### *Ambient Air Quality Standards*

The Clean Air Act was passed in 1963 by the United States Congress and has been amended several times. The 1970 Clean Air Act amendments strengthened previous legislation and laid the foundation for the regulatory scheme of the 1970s and 1980s. In 1977, Congress again added several provisions, including nonattainment requirements for areas not meeting National AAQS and the Prevention of Significant Deterioration program. The 1990 amendments represent the latest in a series of federal efforts to regulate the protection of air quality in the United States. The Clean Air Act allows states to adopt more stringent standards or to include other pollution species. The California Clean Air Act, signed into law in 1988, requires all areas of the state to achieve and maintain the California AAQS by the earliest practical date. The California AAQS tends to be more restrictive than the National AAQS, based on even greater health and welfare concerns.

Both California and the federal government have established health based AAQS for seven air pollutants, which are shown in Table 4.2-2, *Ambient Air Quality Standards for Criteria Pollutants*. These National AAQS and California AAQS are the levels of air quality considered to provide a margin of safety in the protection of the public health and welfare. They are designed to protect “sensitive receptors” most susceptible to further respiratory distress, such as asthmatics, the elderly, very young children, people already weakened by other disease or illness, and persons engaged in strenuous work or exercise. Healthy adults can tolerate occasional exposure to air pollutant concentrations considerably above these minimum standards before adverse effects are observed. California has also adopted a host of other regulations that reduce criteria pollutant emissions, including:<sup>8</sup>

- Assembly Bill (AB) 1493: Pavley Fuel Efficiency Standards.
- Heavy-Duty (Tractor-Trailer) GHG Regulation.
- Advanced Clean Cars Regulation.
- Advanced Clean Fleets Regulation.
- Senate Bill (SB) 1078 and SB 107: Renewables Portfolio Standards.
- Title 20 California Code of Regulations (CCR): Appliance Energy Efficiency Standards.
- Title 24, Part 6, CCR: Building Energy Efficiency Standards.
- Title 24, Part 11, CCR: Green Building Standards Code.

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<sup>8</sup> See Chapter 4.7, *Greenhouse Gas Emissions*, of this Draft EIR for a description of regulations that reduce emissions including Assembly Bill 32, also known as the Global Warming Solutions Act, Senate Bill 375, also known as the Sustainable Communities and Climate Protection Act. See Chapter 4.15, *Transportation*, of this Draft EIR for a description on Senate Bill 743, and how it relates to reducing vehicle miles traveled or “VMT.”

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**TABLE 4.2-2 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS**

Pollutant	Averaging Time	California Standard <sup>a</sup>	Federal Primary Standard <sup>b</sup>	Major Pollutant Sources
Ozone (O <sub>3</sub> ) <sup>c</sup>	1 hour	0.09 ppm	*	Motor vehicles, paints, coatings, and solvents.
	8 hours	0.070 ppm	0.070 ppm	
Carbon Monoxide (CO)	1 hour	20 ppm	35 ppm	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm	
Nitrogen Dioxide (NO <sub>2</sub> )	Annual Arithmetic Mean	0.030 ppm	0.053 ppm	Motor vehicles, petroleum-refining operations, industrial sources, aircraft, ships, and railroads.
	1 hour	0.18 ppm	0.100 ppm	
Sulfur Dioxide (SO <sub>2</sub> )	Annual Arithmetic Mean	*	0.030 ppm	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	1 hour	0.25 ppm	0.075 ppm	
	24 hours	0.04 ppm	0.14 ppm	
Respirable Coarse Particulate Matter (PM <sub>10</sub> )	Annual Arithmetic Mean	20 µg/m <sup>3</sup>	*	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>	
Respirable Fine Particulate Matter (PM <sub>2.5</sub> ) <sup>d</sup>	Annual Arithmetic Mean	12 µg/m <sup>3</sup>	12 µg/m <sup>3</sup>	Dust and fume-producing construction, industrial, and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	24 hours	*	35 µg/m <sup>3</sup>	
Lead (Pb)	30-Day Average	1.5 µg/m <sup>3</sup>	*	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Calendar Quarter	*	1.5 µg/m <sup>3</sup>	
	Rolling 3-Month Average	*	0.15 µg/m <sup>3</sup>	
Sulfates (SO <sub>4</sub> ) <sup>e</sup>	24 hours	25 µg/m <sup>3</sup>	*	Industrial processes.
Visibility Reducing Particles	8 hours	ExCo =0.23/km visibility of 10≥ miles	No Federal Standard	Visibility-reducing particles consist of suspended particulate matter, which is a complex mixture of tiny particles that consists of dry solid fragments, solid cores with liquid coatings, and small droplets of liquid. These particles vary greatly in shape, size and chemical composition, and can be made up of many different materials such as metals, soot, soil, dust, and salt.
Hydrogen Sulfide	1 hour	0.03 ppm	No Federal Standard	Hydrogen sulfide (H <sub>2</sub> S) is a colorless gas with the odor of rotten eggs. It is formed during bacterial decomposition of sulfur-containing organic substances. Also, it can be present in sewer gas and some natural gas, and can be emitted as the result of geothermal energy exploitation.

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**TABLE 4.2-2 AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS**

Pollutant	Averaging Time	California Standard <sup>a</sup>	Federal Primary Standard <sup>b</sup>	Major Pollutant Sources
Vinyl Chloride	24 hours	0.01 ppm	No Federal Standard	Vinyl chloride (chloroethene), a chlorinated hydrocarbon, is a colorless gas with a mild, sweet odor. Most vinyl chloride is used to make polyvinyl chloride (PVC) plastic and vinyl products. Vinyl chloride has been detected near landfills, sewage plants, and hazardous waste sites, due to microbial breakdown of chlorinated solvents.

Notes: ppm: parts per million;  $\mu\text{g}/\text{m}^3$ : micrograms per cubic meter; \*Standard has not been established for this pollutant/duration by this entity.

<sup>a</sup>. California standards for  $\text{O}_3$ , CO (except 8-hour Lake Tahoe),  $\text{SO}_2$  (1 and 24 hour),  $\text{NO}_2$ , and particulate matter ( $\text{PM}_{10}$ ,  $\text{PM}_{2.5}$ , and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

<sup>b</sup>. National standards (other than  $\text{O}_3$ , PM, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The  $\text{O}_3$  standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For  $\text{PM}_{10}$ , the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above  $150 \mu\text{g}/\text{m}^3$  is equal to or less than one. For  $\text{PM}_{2.5}$ , the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over 3 years, are equal to or less than the standard.

<sup>c</sup>. On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

<sup>d</sup>. On December 14, 2012, the national annual  $\text{PM}_{2.5}$  primary standard was lowered from  $15 \mu\text{g}/\text{m}^3$  to  $12.0 \mu\text{g}/\text{m}^3$ . The existing national 24-hour  $\text{PM}_{2.5}$  standards (primary and secondary) were retained at  $35 \mu\text{g}/\text{m}^3$ , as was the annual secondary standard of  $15 \mu\text{g}/\text{m}^3$ . The existing 24-hour  $\text{PM}_{10}$  standards (primary and secondary) of  $150 \mu\text{g}/\text{m}^3$  also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

<sup>e</sup>. On June 2, 2010, a new 1-hour  $\text{SO}_2$  standard was established and the existing 24-hour and annual primary standards were revoked. The 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.

Source: California Air Resources Board, March 2017, *Short-Lived Climate Pollutant Reduction Strategy*, [https://ww2.arb.ca.gov/sites/default/files/2020-07/final\\_SLCP\\_strategy.pdf](https://ww2.arb.ca.gov/sites/default/files/2020-07/final_SLCP_strategy.pdf), accessed May 26, 2023.

### *Tanner Air Toxics Act and Air Toxics “Hot Spot” Information and Assessment Act*

Public exposure to TACs is a significant environmental health issue in California. In 1983, the California Legislature enacted a program to identify the health effects of TACs and reduce exposure to these contaminants to protect public health. A substance that is listed as a hazardous air pollutant pursuant to Section 112(b) of the federal Clean Air Act (42 United States Code Section 7412[b]) is a toxic air contaminant. Under State law, CalEPA, acting through CARB, is authorized to identify a substance as a TAC if it is an air pollutant that may cause or contribute to an increase in mortality or serious illness, or may pose a present or potential hazard to human health.

California regulates TACs primarily through AB 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics “Hot Spot” Information and Assessment Act of 1987). AB 1807 sets up a formal procedure for CARB to designate substances as TACs. Once a TAC is identified, CARB adopts an “airborne toxics control measure” for sources that emit designated TACs. If there is a safe threshold for a substance (i.e., a point below which there is no toxic effect), the airborne toxics control measure must reduce exposure to below that threshold. If there is no safe threshold, the airborne toxics control measure must incorporate toxics best available control technology to minimize emissions. To date, CARB has established formal control measures for 11 TACs that are identified as having no safe threshold.

Under AB 2588, TAC emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High priority facilities<sup>9</sup> are required to perform a health risk assessment, and if specific thresholds are exceeded, are required to communicate the results to the public through notices and public meetings.

CARB has promulgated the following specific rules to limit TAC emissions:

- 13 CCR Chapter 10, Section 2485, Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- 13 CCR Chapter 10, Section 2480, Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- 13 CCR Section 2477 and Article 8, Airborne Toxic Control Measure for In-Use Diesel-Fueled Transport Refrigeration Units (TRU) and TRU Generator Sets and Facilities Where TRUs Operate

## Regional Regulations

### *Bay Area Air Quality Management District*

BAAQMD is the agency responsible for ensuring that the National and California AAQS are attained and maintained in the SFBAAB. Air quality conditions in the SFBAAB have improved significantly since BAAQMD was created in 1955.<sup>10</sup> BAAQMD prepares air quality management plans (AQMP) to attain ambient air quality standards in the SFBAAB. BAAQMD prepares ozone attainment plans for the National O<sub>3</sub> standard and clean air plans for the California O<sub>3</sub> standard BAAQMD prepares these air quality management plans in coordination with Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) to ensure consistent assumptions about regional growth.

### 2017 Clean Air Plan

BAAQMD adopted the 2017 *Clean Air Plan, Spare the Air, Cool the Climate* (2017 Clean Air Plan) on April 19, 2017, making it the most recently adopted comprehensive plan. The 2017 Clean Air Plan incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The 2017 Clean Air Plan serves as an update to the adopted Bay Area 2010 Clean Air Plan and continues to provide the framework for SFBAAB to achieve attainment of the California and National AAQS. The 2017 Clean Air Plan updates the Bay Area's ozone plan, which is based on the "all feasible measures" approach to meet the requirements of the California Clean Air Act. Additionally, it sets a goal of reducing health risk impacts to local communities by 20 percent between 2015 and 2020. Furthermore the 2017 Clean Air

<sup>9</sup> Each district is responsible for establishing the prioritization score threshold at which facilities are required to prepare a health risk assessment. In the Bay Area, facilities that generate a cancer risk of greater or equal to 10 in a million and a non-cancer chronic or acute risk greater or equal to 10 in a million are high priority facilities. Types of facilities that have the potential to generate risks of this level include refineries, other heavy industrial manufacturing/industrial processes, and fueling stations.

<sup>10</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 25, 2023.

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Plan also lays the groundwork for reducing GHG emissions in the Bay Area to meet the State's 2030 GHG reduction target and 2050 GHG reduction goal. It also includes a vision for the Bay Area in a post-carbon year 2050 that encompasses the following:<sup>11</sup>

- Construct buildings that are energy efficient and powered by renewable energy.
- Walk, bicycle, and use public transit for the majority of trips and use electric-powered autonomous public transit fleets.
- Incubate and produce clean energy technologies.
- Live a low-carbon lifestyle by purchasing low-carbon foods and goods in addition to recycling and putting organic waste to productive use.

A multipollutant control strategy was developed to be implemented in the next three to five years to address public health and climate change and to set a pathway to achieve the 2050 vision. The control strategy includes 85 control measures to reduce emissions of ozone, particulate matter, TACs, and GHG from a full range of emission sources. These control measures cover the following sectors: 1) stationary (industrial) sources; 2) transportation; 3) energy; 4) agriculture; 5) natural and working lands; 6) waste management; 7) water; and 8) super-GHG pollutants. The control strategy includes these key priorities:

- Reduce emissions of criteria air pollutants and toxic air contaminants from all key sources.
- Reduce emissions of "super-GHGs" such as methane, black carbon, and fluorinated gases.
- Decrease demand for fossil fuels (gasoline, diesel, and natural gas).
  - Increase efficiency of the energy and transportation systems.
  - Reduce demand for vehicle travel and high-carbon goods and services.
- Decarbonize the energy system.
  - Make the electricity supply carbon-free.
  - Electrify the transportation and building sectors.

### Community Air Risk Evaluation (CARE) Program

The BAAQMD Community Air Risk Evaluation program was initiated in 2004 to evaluate and reduce health risks associated with exposure to outdoor TACs in the Bay Area, primarily DPM. The last update to this program was conducted in 2014. Based on findings of the 2014 report, DPM was found to account for approximately 85 percent of the cancer risk from airborne toxics. Carcinogenic compounds from gasoline-powered cars and light duty trucks were also identified as significant cancer risks: 1,3-butadiene contributed 4 percent of the cancer risk-weighted emissions and benzene contributed 3 percent. Collectively, five compounds—DPM, 1,3-butadiene, benzene, formaldehyde, and acetaldehyde—were found to be responsible for more than 90 percent of the cancer risk attributed to emissions. All of these compounds are associated with emissions from internal combustion engines. The most important sources of cancer risk-weighted emissions were combustion-related sources of DPM, including on-road mobile sources (31 percent), construction equipment (29 percent), and ships and harbor craft (13

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<sup>11</sup> Bay Area Air Quality Management District, April 19, 2017, *Final 2017 Clean Air Plan, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area*, [https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a\\_-proposed-final-cap-vol-1-pdf.pdf?la=en](https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en), accessed May 25, 2023.

percent). Overall, cancer risk from TACs dropped by more than 50 percent between 2005 and 2015, when emissions inputs accounted for State diesel regulations and other reductions.<sup>12</sup>

The major contributor to acute and chronic noncancer health effects in the SFBAAB is acrolein (C<sub>3</sub>H<sub>4</sub>O). Major sources of acrolein are on-road mobile sources and aircraft near freeways and commercial and military airports.<sup>13</sup> Currently CARB does not have certified emission factors or an analytical test method for acrolein. Since the appropriate tools needed to implement and enforce acrolein emission limits are not available, BAAQMD does not conduct health risk screening analysis for acrolein emissions.<sup>14</sup>

### Assembly Bill 617 Community Action Plans

AB 617 was signed into law in July 2017 to develop a new community-focused program to more effectively reduce exposure to air pollution and preserve public health in environmental justice communities. AB 617 directs CARB and all local air districts to take measures to protect communities disproportionately impacted by air pollution by monitoring emissions and implementing air pollution control strategies.

On September 27, 2018, CARB approved BAAQMD's recommended communities for monitoring and emission-reduction planning. The State approved communities for year 1 of the program as well as communities that would move forward over the next five years. Bay Area recommendations included all the Community Air Risk Evaluation areas as well as areas with large sources of air pollution (refineries, seaports, airports, etc.), areas identified via statewide screening tools as having pollution and/or health burden vulnerability, and areas with low life expectancy.<sup>15</sup>

- **Year 1 Communities:**
  - **West Oakland.** The West Oakland community was selected for BAAQMD's first Community Action Plan. In 2017, cancer risk from sources in West Oakland (local sources) was 204 in a million. The primary sources of air pollution in West Oakland include heavy trucks and cars, port

<sup>12</sup> Bay Area Air Quality Management District, April 2014, *Improving Air Quality & Health in Bay Area Communities, Community Air Risk Evaluation Program Retrospective & Path Forward (2004-2013)*, [https://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE\\_Retrospective\\_April2014.ashx?la=en](https://www.baaqmd.gov/~media/Files/Planning%20and%20Research/CARE%20Program/Documents/CARE_Retrospective_April2014.ashx?la=en), accessed May 25, 2023.

<sup>13</sup> Bay Area Air Quality Management District, September 2006, *Community Air Risk Evaluation Program: Phase I Findings and Policy Recommendations Related to Toxic Air Contaminants in the San Francisco Bay Area*, [https://www.baaqmd.gov/~media/files/planning-and-research/care-program/care\\_p1\\_findings\\_recommendations\\_v2.pdf](https://www.baaqmd.gov/~media/files/planning-and-research/care-program/care_p1_findings_recommendations_v2.pdf), accessed May 25, 2023.

<sup>14</sup> Bay Area Air Quality Management District, January 2010, *Air Toxics NSR Program Health Risk Screening Analysis (HSRA) Guidelines*, [http://www.baaqmd.gov/~media/Files/Engineering/Air%20Toxics%20Programs/hrs\\_a\\_guidelines.ashx](http://www.baaqmd.gov/~media/Files/Engineering/Air%20Toxics%20Programs/hrs_a_guidelines.ashx), accessed May 25, 2023.

<sup>15</sup> Bay Area Air Quality Management District, April 16, 2019, *San Francisco Bay Area Community Health Protection Program*, [https://www.baaqmd.gov/~media/files/ab617-community-health/2019\\_0325\\_ab617onepager-pdf.pdf?la=en](https://www.baaqmd.gov/~media/files/ab617-community-health/2019_0325_ab617onepager-pdf.pdf?la=en), accessed May 25, 2023.

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and rail sources, large industries, and, to a lesser extent, other sources such as residential sources (i.e., wood burning). The majority (over 90 percent) of cancer risk is from DPM<sub>2.5</sub>.<sup>16</sup>

- **Richmond.** Richmond was selected for a community monitoring plan in year 1 of the AB 617 program. The Richmond area is in western Contra Costa County and includes most of the City of Richmond and portions of El Cerrito. It also includes communities just north and east of Richmond, such as San Pablo and several unincorporated communities, including North Richmond. The primary goals of the Richmond monitoring effort are to leverage historical and current monitoring studies, to better characterize the area's mix of sources, and to more fully understand the associated air quality and pollution impact.<sup>17</sup>
- **Year 2 to 5 Communities:** East Oakland/San Leandro, Eastern San Francisco, the Pittsburg-Bay Point area, San Jose, Tri-Valley, and Vallejo are slated for action in years 2 to 5 of the AB 617 program.<sup>18</sup>

As identified above, AB 617 is not directly applicable to San Mateo since BAAQMD has not currently designated the City of San Mateo or communities within the EIR Study Area as disproportionately impacted by air pollution in either the Year 1 or Year 2-to-5 communities.

### Air District Rules and Regulations

#### Regulation 7, Odorous Substances

Sources of objectionable odors may occur within the EIR Study Area. BAAQMD's Regulation 7, Odorous Substances, places general limitations on odorous substances and specific emission limitations on certain odorous compounds. Odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that "no person shall 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 the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property." Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

#### Naturally Occurring Asbestos Program

To reduce public exposure to naturally occurring asbestos, BAAQMD places Airborne Toxic Control Measures to regulate all construction, maintenance, grading, and mining activities that could potentially

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<sup>16</sup> Bay Area Air Quality Management District, October 2019, *Owning Our Air: The West Oakland Community Action Plan*, <https://www.baaqmd.gov/~media/files/ab617-community-health/west-oakland/100219-files/final-plan-vol-1-100219-pdf.pdf?la=en>, accessed May 25, 2023.

<sup>17</sup> Bay Area Air Quality Management District, April 16, 2019, *San Francisco Bay Area Community Health Protection Program*, [https://www.baaqmd.gov/~media/files/ab617-community-health/2019\\_0325\\_ab617onepager-pdf.pdf?la=en](https://www.baaqmd.gov/~media/files/ab617-community-health/2019_0325_ab617onepager-pdf.pdf?la=en), accessed May 25, 2023.

<sup>18</sup> Bay Area Air Quality Management District, April 16, 2019, *San Francisco Bay Area Community Health Protection Program*, [https://www.baaqmd.gov/~media/files/ab617-community-health/2019\\_0325\\_ab617onepager-pdf.pdf?la=en](https://www.baaqmd.gov/~media/files/ab617-community-health/2019_0325_ab617onepager-pdf.pdf?la=en), accessed May 25, 2023.

produce dust containing naturally occurring asbestos.<sup>19</sup> The Naturally Occurring Asbestos Program also requires the best available dust mitigation measures to be followed to reduce exposure to airborne asbestos.<sup>20</sup>

### Other Air District Regulations

In addition to the plans and programs described above, BAAQMD administers several specific regulations on various sources of pollutant emissions that would apply to potential future development constructed, including:

- Regulation 2, Rule 2, New Source Review
- Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants
- Regulation 6, Rule 1, General Requirements
- Regulation 6, Rule 2, Commercial Cooking Equipment
- Regulation 8, Rule 3, Architectural Coatings
- Regulation 8, Rule 4, General Solvent and Surface Coatings Operations
- Regulation 8, Rule 7, Gasoline Dispensing Facilities
- Regulation 11, Rule 2, Asbestos, Demolition, Renovation and Manufacturing
- Regulation 11, Rule 18, Reduction of Risk from Air Toxic Emissions at Existing Facilities

### *City/Council Association of Governments of San Mateo County*

The City/Council Association of Governments of San Mateo County (C/CAG) is the congestion management agency for San Mateo County. C/CAG is tasked with developing a comprehensive transportation improvement program among local jurisdictions that will reduce traffic congestion and improve land use decision making and air quality plans. C/CAG's latest congestion management program (CMP) is the San Mateo Congestion Management Program, adopted December 2021.<sup>21</sup> C/CAG's countywide transportation model must be consistent with the regional transportation model developed by the MTC with ABAG data. The countywide transportation model is used to help evaluate cumulative transportation impacts of local land use decisions on the CMP system. In addition, C/CAG's updated CMP includes multimodal performance standards and trip reduction and transportation demand management strategies consistent with the goal of reducing regional VMT in accordance with SB 375. Strategies identified in the 2021 CMP for San Mateo County, where local jurisdictions are responsible agencies, include:

- **Designated Roadway System.** Establish and maintain the designated CMP roadway system that allows performance monitoring in terms of established level-of-service standards.

<sup>19</sup> Bay Area Air Quality Management District, 2023, Naturally Occurring Asbestos. <https://www.baaqmd.gov/permits/asbestos/naturally-occurring-asbestos>, accessed May 25, 2023.

<sup>20</sup> Bay Area Air Quality Management District, 2019, Compliance Advisory, Naturally Occurring Asbestos Program Fee Change. [https://www.baaqmd.gov/~media/files/compliance-and-enforcement/advisories/asbestos-atcm/noa-compliance-advisory-2019\\_final-pdf.pdf?la=en](https://www.baaqmd.gov/~media/files/compliance-and-enforcement/advisories/asbestos-atcm/noa-compliance-advisory-2019_final-pdf.pdf?la=en), accessed May 25, 2023.

<sup>21</sup> City/County Association of Governments of San Mateo County, December 2021, *San Mateo County Congestion Management Plan*, [https://ccag.ca.gov/wp-content/uploads/2022/01/258-018-San-Mateo-CMP-Report\\_Final.pdf](https://ccag.ca.gov/wp-content/uploads/2022/01/258-018-San-Mateo-CMP-Report_Final.pdf), accessed May 25, 2023.

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- **Roadway System Level of Service.** Establish level-of-service standards using the Transportation Research Board's Circular 212, the latest version of the Highway Capacity Manual (HCM) or a C/CAG adopted alternative that is consistent with the HCM.
- **System Performance.** Establish performance measures to evaluate current and future multimodal system performance for the movement of people and goods.
- **Trip Reduction and Travel Demand Element.** Promote alternative transportation methods to reduce traffic congestion, increase use of park-and-ride lots, improvements in the balance between jobs and housing, and other strategies for reducing vehicle trips, including flexible work hours, telecommuting, and parking management programs.
- **Land Use Impact Analysis Program.** Analyze the impacts of land use decisions made by local jurisdictions on the regional transportation system (both highways and transit).
- **Deficiency Plan Guidelines.** Determine every two years whether San Mateo County and cities and towns within the county conform to the requirements of the CMP based on information obtained through monitoring.
- **Capital Improvement Program.** Include a seven-year Capital Improvement Program to maintain or improve the performance of the multimodal system for the movement of people and goods and to mitigate regional transportation impacts identified through the Land Use Analysis Program.
- **Database and Travel Demand Model.** In consultation with the regional transportation planning agency, cities, and the county, develop a uniform database on traffic impacts for use in a countywide travel demand model.

### *Plan Bay Area 2050*

MTC and ABAG adopted *Plan Bay Area 2050* (Plan Bay Area) on October 21, 2021.<sup>22</sup> Plan Bay Area provides transportation and environmental strategies to continue to meet the regional transportation-related GHG reduction goals of SB 375. Strategies to reduce GHG emissions include focusing housing and commercial construction in walkable, transit-accessible places; investing in transit and active transportation; and shifting the location of jobs to encourage shorter commutes. As part of the implementing framework for Plan Bay Area, local governments have identified Priority Development Areas (PDAs) and Transit Priority Areas (TPAs) to focus growth. PDAs are transit-oriented, infill development opportunity areas within existing communities. TPAs are half-mile buffers surrounding major transit stops or terminals. As shown on Figure 4-1, *Priority Development Areas and Transit Priority Areas*, in Chapter 4, *Environmental Analysis*, of this Draft EIR, the EIR Study Area has four PDAs and a TPA.

### *Nitrogen Oxides from Natural Gas-Fired Furnaces, Boilers, and Water Heaters*

BAAQMD adopted amendments to Regulation 9, Inorganic Gaseous Pollutants, Rule 4, Nitrogen Oxides from Natural Gas-Fired Furnaces (Rule 9-4) and Rule 6, Nitrogen Oxides Emissions from Natural Gas-Fired

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<sup>22</sup> Association of Bay Area Governments and Metropolitan Transportation Commission, October 2021, *Plan Bay Area 2050*, [https://www.planbayarea.org/sites/default/files/documents/Plan\\_Bay\\_Area\\_2050\\_October\\_2021.pdf](https://www.planbayarea.org/sites/default/files/documents/Plan_Bay_Area_2050_October_2021.pdf), accessed May 25, 2023.

Boilers and Water Heaters (Rule 9-6). Space- and water-heating appliances generate a large portion of nitrogen oxide (NO<sub>x</sub>) emissions from sources in the Bay Area. NO<sub>x</sub> is a key criteria pollutant as a precursor to ozone and secondary particulate matter (PM) formation. The amendments would require more stringent NO<sub>x</sub> emission standards for space- and water-heating appliances within BAAQMD's jurisdiction starting in year 2023 and would substantially reduce NO<sub>x</sub> emissions from these appliances commonly found in single-family homes and commercial applications.

The amendments to Rules 9-4 and 9-6 include the following elements:

- Sales and installation of smaller water heaters and boilers (below 75,000 BTU/hour) must be zero emission, starting in 2027.
- Sales and installation of furnaces (heat input rate less than 175,000 BTU/hour) must be zero emission starting in 2029.
- Sales of larger water heaters and boilers (between 75,000 and 2 million BTU/hour) must be zero emission starting in 2031.
- Existing appliances can remain in operation, but the rule would apply once they need replacement.

## **Local Regulations**

### *San Mateo General Plan 2030*

The City of San Mateo General Plan 2030 goals, policies, and actions that are relevant to air quality are primarily in the Land Use Element. As part of the proposed project, some existing General Plan goals, policies, and actions would be amended, substantially changed, or new policies would be added. Applicable goals, policies, and actions are identified and assessed for their effectiveness and potential to result in an adverse physical impact later in this chapter under Section 4.2.3, *Impact Discussion*.

### *Climate Action Plan*

Adopted in April 2020, the San Mateo 2020 CAP is a comprehensive strategy to reduce GHG emissions and streamline the environmental review of GHG emissions of future development projects in the city.<sup>23</sup> The CAP allows City decision-makers and the community to understand the sources and magnitude of local GHG emissions and identifies a strategy, reduction measures, and implementation actions the City will use to achieve targets consistent with State recommendations of 15 percent below 2005 emissions levels by 2020, 4.3 metric tons of carbon dioxide equivalent (MTCO<sub>2</sub>e) per person by 2030, and 1.2 MTCO<sub>2</sub>e per person by 2050. The CAP adopted in 2020 updated and expanded the City's goals, measures, and actions to address GHG emissions from the energy, water, transportation, solid waste, and off-road equipment sectors. It also revises San Mateo's implementation program and framework to monitor and report progress. A technical update to the CAP with updated inventories and forecasts has been conducted as part of the proposed project.

<sup>23</sup> City of San Mateo, April 2020, *2020 Climate Action Plan*, [cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=](http://cityofsanmateo.org/DocumentCenter/View/80652/2020-Climate-Action-Plan?bidId=), accessed May 25, 2023.

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### *City of San Mateo Municipal Code*

The San Mateo Municipal Code (SMMC) includes various directives pertaining to air quality. The SMMC is organized by title, chapter, and section, and in some cases, articles. Most provisions related to air quality impacts are included in Title 7, *Health, Sanitation and Public Nuisance*, Title 13, *Parks and Recreation*, Title 24, *Transportation System Management (TSM)*, and Title 27, *Zoning*.

- Chapter 7.33, *Recycling and Salvaging of Construction and Demolition Debris*, requires the recycling of construction and demolition debris to help the City reduce landfill waste, foster resource conservation, and help the City meet and exceed a diversion rate of 50 percent.
- Chapter 7.35, *Mandatory Organic Waste Disposal Reduction Ordinance*, list requirements for organic waste generators, in compliance with state recycling laws, state organic recycling laws, and the Short-Lived Climate Pollutant Reduction Act of 2016.
- Chapter 13.40, *Protected Trees*, protects, preserves, and replenishes healthy and valuable trees in the city for the health and welfare of residents and in order to counteract air pollutants and maintain climatic balances, among reasons.
- Chapter 24.01, *Transportation System Management*, encourages participation in an inter-city authority that works in partnership with employers to promote programs and services that help employers achieve their trip reduction goals in an effort to improve air quality and reduce traffic congestion in the region; facilitation of the achievement of vehicle to employee ratio standards by public and private employers subject to Regulation 13, Rule 1; and encouragement and facilitation of participation by employers with 25-99 employees in promoting commute alternatives to their employees.
- Chapter 27.56, *M1 Districts – Manufacturing*, includes regulations for smoke and odor in Section 27.56.100, *Smoke – Particulate Matter*, and Section 27.56.110, *Odorous Matter*. No stack is permitted to emit more than ten smoke units during any one hour. The rate of emission of particulate matter from all sources is not permitted to exceed a net figure of one pound per acre of lot area and during any one hour. Dust and other forms of air pollution borne by the wind from such sources as storage areas, yards, roads, and so forth are required to be kept to a minimum by appropriate landscaping, paving, oiling or other acceptable means. Any process which may involve the creation or emission of any odors is required to be provided with a secondary safeguard system, so that control will be maintained if the primary safeguard system should fail.
- Chapter 27.90, *TOD District – Transit Oriented Development*, implements the San Mateo Corridor Transit Oriented Development Plan in the Transit Oriented Development (TOD) district to encourage more insensitive development within walking distance of transit stops. TOD is intended to provide for an integrated mix of land uses that support transit use through site design that enhances accessibility to stations and is supportive of pedestrian and bicycle use.

### 4.2.1.3 EXISTING CONDITIONS

#### San Francisco Bay Area Air Basin Conditions

The SFBAAB comprises all of Alameda, Contra Costa, Marin, Napa, San Francisco, San Mateo, and Santa Clara counties; the southern portion of Sonoma County; and the southwestern portion of Solano County. Air quality in the SFBAAB is determined by such natural factors as topography, meteorology, and climate in addition to the presence of existing air pollution sources and ambient conditions, as described below:<sup>24</sup>

- **Meteorology:** The SFBAAB is characterized by complex terrain, consisting of coastal mountain ranges, inland valleys, and bays, that distorts normal wind flow patterns. The Coast Range<sup>25</sup> splits in the Bay Area, creating a western coast gap, the Golden Gate, and an eastern coast gap, the Carquinez Strait, which allows air to flow in and out of the Bay Area and the Central Valley. The climate is dominated by the strength and location of a semipermanent, subtropical high-pressure cell. During the summer, the Pacific high-pressure cell is centered over the northeastern Pacific Ocean, resulting in stable meteorological conditions and a steady northwesterly wind flow. Upwelling of cold ocean water from below the surface because of the northwesterly flow produces a band of cold water off the California coast. The cool and moisture-laden air approaching the coast from the Pacific Ocean is further cooled by the presence of the cold-water band, resulting in condensation and the presence of fog and stratus clouds along the Northern California coast. In the winter, the Pacific high-pressure cell weakens and shifts southward, resulting in wind flow offshore, the absence of upwelling, and the occurrence of storms. Weak inversions coupled with moderate winds result in a low air pollution potential.
- **Predominant Wind Patterns:** During the summer, winds flowing from the northwest are drawn inland through the Golden Gate and over the lower portions of the San Francisco Peninsula. Immediately south of Mount Tamalpais in Marin County, the northwesterly winds accelerate considerably and come more directly from the west as they stream through the Golden Gate. This channeling of wind through the Golden Gate produces a jet that sweeps eastward and splits off to the northwest toward Richmond and to the southwest toward San José when it meets the East Bay hills. Wind speeds may be strong locally in areas where air is channeled through a narrow opening such as the Carquinez Strait, the Golden Gate, or the San Bruno gap. The air flowing in from the coast to the Central Valley, called the sea breeze, begins developing at or near ground level along the coast in late morning or early afternoon, and the sea breeze deepens and increases in velocity while spreading inland. Under normal atmospheric conditions, the air in the lower atmosphere is warmer than the air above it. In the winter, stormy conditions with moderate to strong winds are frequent, as are periods of stagnation with very light winds. Winter stagnation episodes (i.e., conditions where there is little mixing because of little or no wind) are characterized by nighttime drainage flows in coastal valleys. Drainage is a reversal of the usual daytime air-flow patterns; air moves from the

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<sup>24</sup> Bay Area Air Quality Management District, May 2017, *California Environmental Quality Act: Air Quality Guidelines*, [https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa\\_guidelines\\_may2017-pdf.pdf?la=en](https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa_guidelines_may2017-pdf.pdf?la=en), accessed May 25, 2023.

<sup>25</sup> The Coast Ranges traverses California's west coast from Humboldt County to Santa Barbara County.

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Central Valley toward the coast and back down toward the Bay from the smaller valleys within the SFBAAB.

- **Wind Circulation:** Low wind speed contributes to the buildup of air pollution because it allows more pollutants to be emitted into the air mass per unit of time. Light winds occur most frequently during periods of low sun (fall and winter, and early morning) and at night. These are also periods when air pollutant emissions from some sources are at their peak—namely, commuter traffic (early morning) and wood-burning appliances (nighttime). The problem can be compounded in valleys, when weak flows carry the pollutants up-valley during the day, and cold air drainage flows move the air mass down-valley at night. Such restricted movement of trapped air provides little opportunity for ventilation and leads to buildup of pollutants to potentially unhealthy levels.
- **Inversions:** An inversion is a layer of warmer air over a layer of cooler air. Inversions affect air quality conditions significantly because they influence the mixing depth (i.e., the vertical depth in the atmosphere available for diluting air contaminants near the ground). There are two types of inversions that occur regularly. Elevation inversions<sup>26</sup> are more common in the summer and fall, and radiation inversions<sup>27</sup> are more common during the winter. The highest air pollutant concentrations generally occur during inversions.
- **Temperature:** Summer temperatures are determined in large part by the effect of differential heating between land and water surfaces. On summer afternoons, the temperatures at the coast can be 35 degrees Fahrenheit cooler than temperatures 15 to 20 miles inland; at night, this contrast usually decreases to less than 10 degrees Fahrenheit. In the winter, the relationship of minimum and maximum temperatures is reversed. During the day the temperature contrast between the coast and inland areas is small, and at night it is large.
- **Precipitation:** The SFBAAB is characterized by moderately wet winters and dry summers. Winter rains (November through March) account for about 75 percent of the average annual rainfall. The amount of annual precipitation can vary greatly from one part of the SFBAAB to another, even within short distances. In general, total annual rainfall can reach 40 inches in the mountains, but it is often less than 16 inches in sheltered valleys. During rainy periods, ventilation (rapid horizontal movement of air and injection of cleaner air) and vertical mixing (an upward and downward movement of air) are usually high, and thus pollution levels tend to be low (i.e., air pollutants disperse more readily into the atmosphere rather than accumulate under stagnant conditions). However, during the winter, frequent dry periods do occur, where mixing and ventilation are low and pollutant levels build up.

### Attainment Status of the SFBAAB

The AQMP provides the framework for air quality basins to achieve attainment of the State and federal AAQS through the State Implementation Plan. Areas that meet AAQS are classified attainment areas, and

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<sup>26</sup> When the air blows over elevated areas, it is heated as it is compressed into the side of the hill/mountain. When that warm air comes over the top, it is warmer than the cooler air of the valley.

<sup>27</sup> During the night, the ground cools off, radiating the heat to the sky.

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areas that do not meet these standards are classified nonattainment areas. Severity classifications for O<sub>3</sub> range from marginal, moderate, and serious to severe and extreme.

- **Unclassified.** A pollutant is designated unclassified if the data are incomplete and do not support a designation of attainment or nonattainment.
- **Attainment.** A pollutant is in attainment if the AAQS for that pollutant was not violated at any site in the area during a three-year period.
- **Nonattainment.** A pollutant is in nonattainment if there was at least one violation of an AAQS for that pollutant in the area.
- **Nonattainment/Transitional.** A subcategory of the nonattainment designation. An area is designated nonattainment/transitional to signify that the area is close to attaining the AAQS for that pollutant.

The attainment status for the SFBAAB is shown in Table 4.2-3, *Attainment Status of Criteria Pollutants in the San Francisco Bay Area Air Basin*. The SFBAAB is currently designated a nonattainment area for California and National O<sub>3</sub>, California and National PM<sub>2.5</sub>, and California PM<sub>10</sub> AAQS.

**TABLE 4.2-3 ATTAINMENT STATUS OF CRITERIA POLLUTANTS IN THE SAN FRANCISCO BAY AREA AIR BASIN**

Pollutant	State	Federal
Ozone – 1-hour	Nonattainment	Classification revoked (2005)
Ozone – 8-hour	Nonattainment (serious)	Nonattainment (marginal) <sup>a</sup>
PM <sub>10</sub> – 24-hour	Nonattainment	Unclassified/ Attainment <sup>b</sup>
PM <sub>2.5</sub> – 24-hour and Annual	Nonattainment	Unclassified/ Attainment
CO – 8-hour and 1-hour	Attainment	Attainment
NO <sub>2</sub> – 1-hour	Attainment	Unclassified
SO <sub>2</sub> – 24-hour and 1-hour	Attainment	Attainment
Lead	Attainment	Attainment
Sulfates	Attainment	Unclassified/Attainment
All others	Unclassified/Attainment	Unclassified/Attainment

a. Severity classification current as of February 13, 2017.

b. In December 2014, US EPA issued final area designations for the 2012 primary annual PM<sub>2.5</sub> National AAQS. Areas designated “unclassifiable/attainment” must continue to take steps to prevent their air quality from deteriorating to unhealthy levels. The effective date of this standard is April 15, 2015.

Sources: California Air Resources Board, October 2020, Maps of State Area Designations, <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>, accessed May 26, 2023.

California Air Resources Board, October 2018, Maps of Federal Area Designations, <https://ww2.arb.ca.gov/resources/documents/maps-state-and-federal-area-designations>, accessed May 26, 2023.

## Existing Ambient Air Quality

Existing levels of ambient air quality and historical trends and projections in the vicinity of the city have been documented and measured by BAAQMD. In 2021, BAAQMD had 32 operational monitoring stations around the Bay Area.<sup>28</sup> The nearest station to the EIR Study Area is the San Carlos Airport II Monitoring Station at 620 Airport Drive in San Carlos. Data from this station is summarized in Table 4.2-4, *Ambient*

<sup>28</sup> Bay Area Air Quality Management District, June 2022, *2022 Annual Air Monitoring Network Plan*, [https://www.baaqmd.gov/~media/files/technical-services/2022\\_network\\_plan-pdf.pdf?la=en](https://www.baaqmd.gov/~media/files/technical-services/2022_network_plan-pdf.pdf?la=en), accessed May 25, 2023.

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*Air Quality Monitoring Summary.* The data show regular violations of the State and federal PM<sub>10</sub> standards and federal PM<sub>2.5</sub> standard. Based on BAAQMD’s Impacted Communities Map, the City of San Mateo is not within a 24-hour PM<sub>2.5</sub> or 8-hour Ozone exceedance area.<sup>29</sup>

**TABLE 4.2-4 AMBIENT AIR QUALITY MONITORING SUMMARY**

Pollutant/Standard	Number of Days Threshold Were Exceeded and Maximum Levels During Such Violations		
	2019	2020	2021
<b>Ozone (O<sub>3</sub>)</b>			
State 1-Hour $\geq$ 0.09 ppm	0	1	0
State and Federal 8-hour $\geq$ 0.07 ppm	2	1	0
Maximum 1-Hour Conc. (ppm)	0.083	0.098	0.085
Maximum 8-Hour Conc. (ppm)	0.077	0.077	0.063
<b>Nitrogen Dioxide (NO<sub>2</sub>)</b>			
State 1-Hour $\geq$ 0.18 (ppm)	0	0	0
Maximum 1-Hour Conc. (ppb)	0.0549	0.0459	0.0405
<b>Fine Particulates (PM<sub>2.5</sub>)</b>			
Federal 24-Hour $>$ 35 $\mu\text{g}/\text{m}^3$	0	9	0
Maximum 24-Hour Conc. ( $\mu\text{g}/\text{m}^3$ )	29.5	124.1	30.1

Notes: ppm = parts per million; ppb = parts per billion;  $\mu\text{g}/\text{m}^3$  = micrograms per cubic meter. Data from the Redwood City Monitoring Station.  
Source: California Air Resources Board, 2023, Air Pollution Data Monitoring Cards (2019, 2020, and 2021), <https://www.arb.ca.gov/adam/topfour/topfourdisplay.php>, accessed May 8, 2023.

## Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others due to the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases. BAAQMD defines sensitive receptors as “Facilities or land uses that include members of the population that are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples include schools, hospitals and residential areas.”<sup>30</sup>

<sup>29</sup> Bay Area Air Quality Management District, 2022, *Community Air Risk Evaluation Program*, <https://www.baaqmd.gov/community-health/community-health-protection-program/community-air-risk-evaluation-care-program>, accessed May 25, 2023.

<sup>30</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

### *Environmental Justice Communities*

Disadvantaged communities identified by CalEnviroScreen 4.0 (CES4) may be disproportionately affected by and vulnerable to poor air quality.<sup>31, 32</sup> The CES cumulative score is a cumulative measure of overall environmental justice burden based on 24 indicators, including pollution, social, and health indicators, four of which are specifically having to do with air quality or air pollution. BAAQMD uses the CES tool to identify environmental justice communities (referred to as Overburdened Communities) and areas of the San Francisco Bay Area where air pollution disparities are the greatest.

Within San Mateo there are the following sensitive communities:

- BAAQMD's Overburdened Communities
- San Mateo Environmental Justice Communities
- San Mateo's General Plan Equity Priority Communities

Figure 4.2-1, *BAAQMD Overburdened Communities*, shows the areas that, according to BAAQMD, are disproportionately burdened by pollution. Figure 4.2-2, *Environmental Justice Communities*, identifies census tracts and associated neighborhoods in the EIR Study Area that have been identified as environmental justice communities through the SB 1000 process. Both BAAQMD's Overburdened Communities and the city's environmental justice communities were mapped using the CES4, a tool advocated for by community groups and developed by the State Office of Environmental Health Hazard Assessment on behalf of the CalEPA.

The City's proposed General Plan identifies low-income communities and communities of color that have experienced a combination of historic discrimination, negligence, and political and economic disempowerment. The communities disproportionately burdened by pollution and health impacts in San Mateo are called Equity Priority Communities (see Figure 4.2-3, *Equity Priority Communities*). These areas were also mapped using local knowledge and the CES4 tool, which applies a formula to each census tract in the state to generate a score that ranks the level of cumulative impacts in each area relative to the rest of the census tracts in the state. A Census tract with a higher score is one that experiences higher pollution burdens and social or health vulnerabilities than census tracts with lower scores. The City identified two equity priority communities per the data available as of December 2022: North Central and North Shoreview/Shoreview. The CES data is updated over time, and new data sources may become available, so the Equity Priority Communities mapped in the proposed General Plan may change as conditions change.

### *CalEnviroScreen Air Quality Indicators*

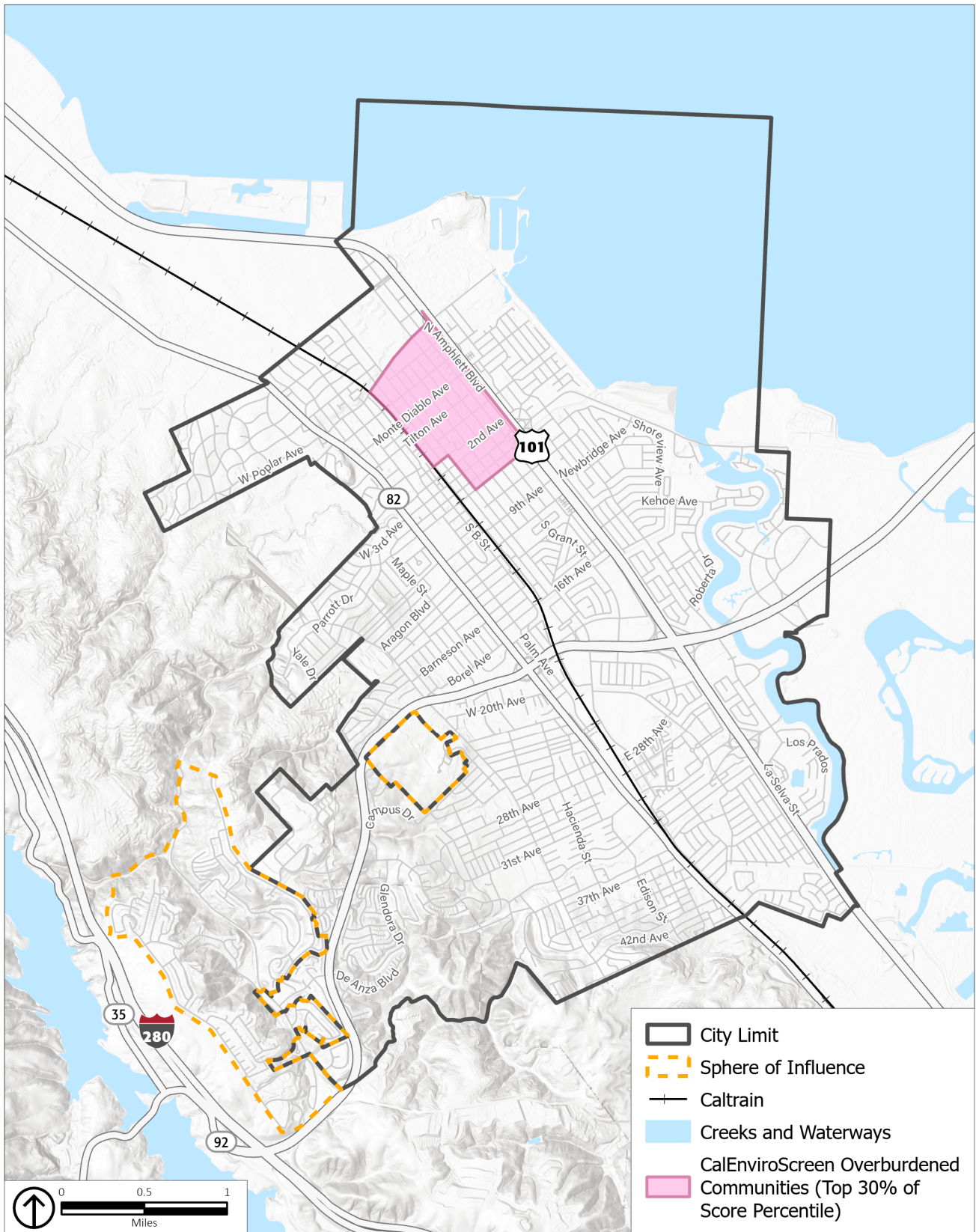
As discussed above, CES is a mapping tool that helps identify the California communities most affected by many sources of pollution and where people are especially vulnerable to pollution's effects. People in environmental justice areas identified by CES may be disproportionately affected by and vulnerable to poor air quality.

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<sup>31</sup> Under Senate Bill 535, disadvantaged communities are defined as the top 25% scoring areas from CalEnviroScreen along with other areas with high amounts of pollution and low populations.

<sup>32</sup> CalEnviroScreen 4.0. Indicator Maps can be found at: <https://oehha.ca.gov/calenviroscreen/report/calenviroscreen-40>

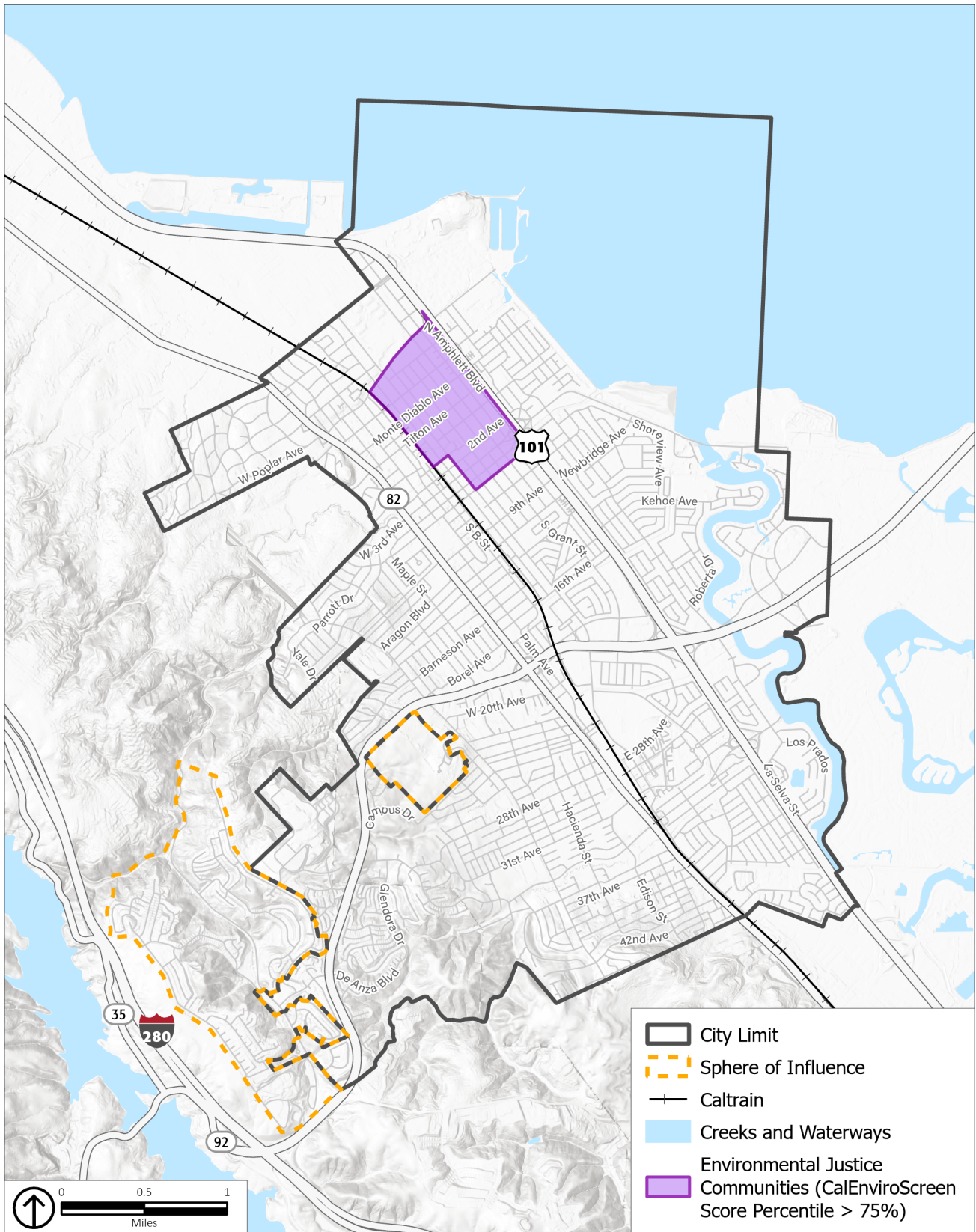
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Source: CalOEHHA, 2021; PlaceWorks, 2023.

Figure 4.2-1  
BAAQMD Overburdened Communities

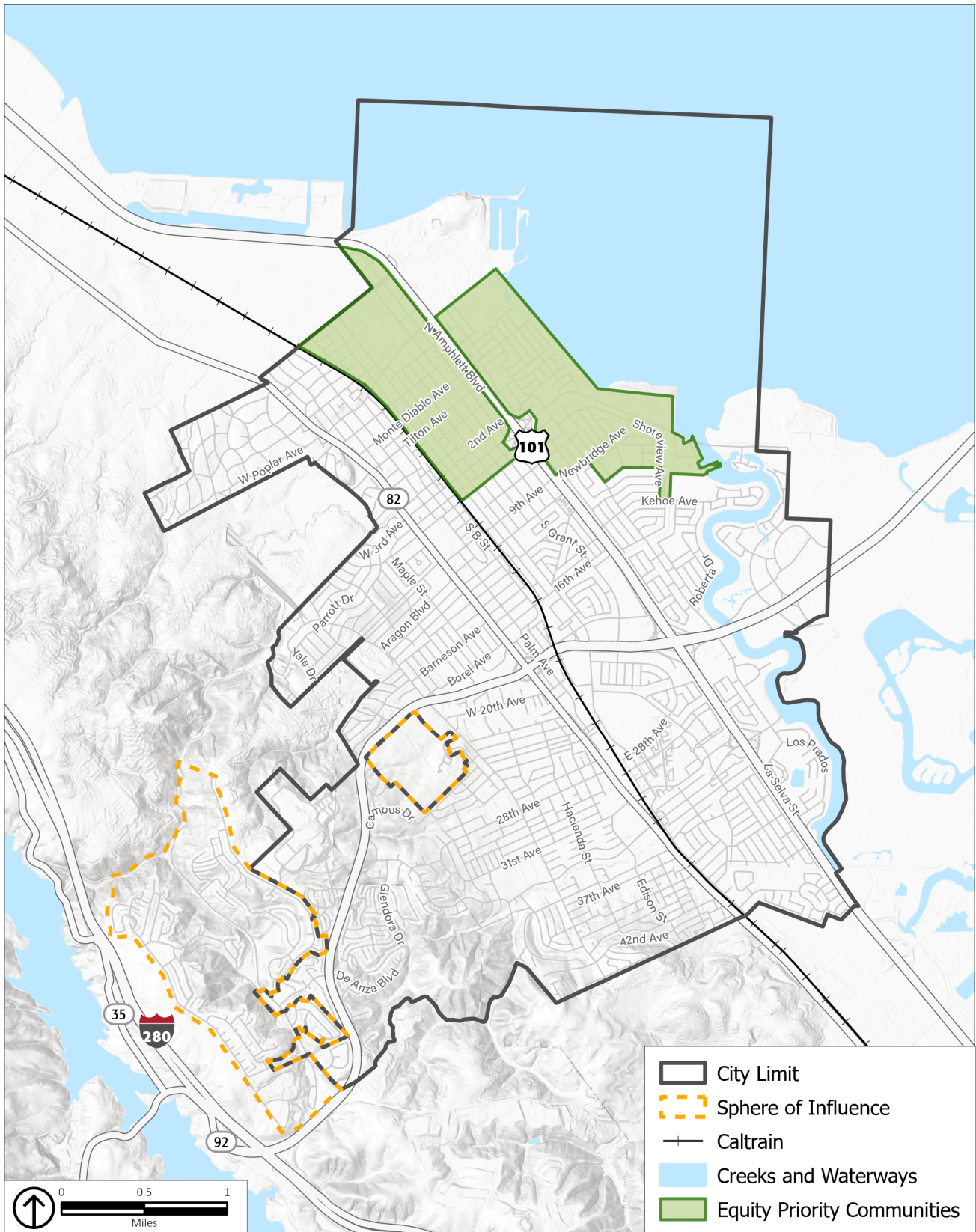
AIR QUALITY



Source: CalOEHHA, 2021; PlaceWorks, 2023.

Figure 4.2-2  
Environmental Justice Communities

AIR QUALITY



Source: City of San Mateo, 2022; PlaceWorks, 2023.

Figure 4.2-3  
Equal Priority Communities

CES's "pollution burden" map identifies communities that are exposed to pollution from human activities, such as air pollution (ozone, PM<sub>2.5</sub>, DPM), water pollution (drinking water contaminants), and hazardous materials (pesticide use, children's lead exposure, toxic releases), and traffic density. Figure 4.2-4, *CES4 Indicator – Cumulative Score by Percentile*, shows the pollution burden for the areas within the EIR Study Area relative to California. In CalEnviroScreen, the pollution burden scope considers the disproportionate effect of pollution on environmental justice communities, because the score weighs socioeconomic factors (educational attainment, poverty, etc.) and sensitivity of the population (asthma rates, cardiovascular disease, etc.).

Though the causes of asthma are poorly understood, it is well established that exposure to traffic and outdoor air pollutants can trigger asthma attacks. Previous research has shown that children, the elderly, racial and ethnic minorities, and low-income Californians suffer disproportionately from asthma burdens, such as asthma attacks and asthma-like symptoms.<sup>33</sup> Most Census tracts in the EIR Study Area rank in the 20th to 30th percentiles for asthma (see Figure 4.2-5, *CES4 Indicator – Asthma by Percentile*).

#### *Placement of New Sensitive Receptors*

BAAQMD adopted *Planning Healthy Places* to provide a list of best practices that should be applied when placing sensitive land uses in areas with high levels of air pollution or in close proximity to local sources of air pollution.<sup>34</sup> The overarching goal of this guidebook is to support and encourage infill development while promoting clean, healthy air for existing and future residents.

Figure 4.2-6, *San Mateo Siting Recommendations*, identifies stationary sources (BAAQMD-permitted sources) in the EIR Study Area as well as major roadways where BAAQMD recommends either implementation of best management practices to reduce risk or preparation of site-specific analysis to ensure air quality compatibility.

The key observation in BAAQMD's *Planning Healthy Places* is that proximity to air pollution sources substantially increases both exposure and the potential for adverse health effects. There are three carcinogenic toxic air contaminants that constitute the majority of the known health risks from motor vehicle traffic: DPM from trucks and benzene, and 1,3-butadiene from passenger vehicles. In *Planning Healthy Places*, BAAQMD provides a list of "Best Practices to Reduce Exposure to Local Air Pollution" that BAAQMD recommends lead agencies require for projects that introduce new receptors within the screening distances shown in Figure 4.2-6. These best practices include practices and technologies that reduce local traffic emissions, increase site buffering between receptors and emission sources, or alter

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<sup>33</sup> California Air Resources Board, 2013, October. Higher 'asthma burden' among minorities, low-income groups tied to increased exposure to air pollution. <https://ww2.arb.ca.gov/news/higher-asthma-burden-among-minorities-low-income-groups-tied-increased-exposure-air-pollution>, accessed May 25, 2023.

<sup>34</sup> Bay Area Air Quality Management District, 2016, April. Planning Healthy Places: A Guidebook for Addressing Local Sources of Air Pollutants in Community Planning. [https://www.baaqmd.gov/~/\\_media/files/planning-and-research/planning-healthy-places/php\\_may20\\_2016-pdf.pdf?la=en](https://www.baaqmd.gov/~/_media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en), accessed May 25, 2023.

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the design of proposed projects to remove receptors from locations expected to experience the highest pollutant concentrations.<sup>35</sup>

### Existing Emissions

#### *Criteria Air Pollutant Emissions Inventory*

Table 4.2-5, *Existing Regional Criteria Air Pollutant Emissions Inventory, EIR Study Area*, identifies the existing criteria air pollutant emissions inventory using emission rates for year 2019 (baseline conditions). The inventories are based on existing land uses in the EIR Study Area. The Year 2019 inventory represents the projected emissions currently generated by existing land uses using the baseline year 2019 emission factors for on-road vehicles.

**TABLE 4.2-5 EXISTING REGIONAL CRITERIA AIR POLLUTANT EMISSIONS INVENTORY, EIR STUDY AREA**

2019 EIR Study Area Criteria Air Pollutant Emissions (pounds per day)				
Emission Source	VOC	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Transportation <sup>a</sup>	260	1,940	203	85
Energy <sup>b</sup>	35	656	49	49
Off-Road Equipment <sup>c</sup>	390	246	10	8
Consumer Products <sup>d</sup>	1,698	0	0	0
<b>Total</b>	<b>2,383</b>	<b>2,842</b>	<b>262</b>	<b>141</b>

2019 EIR Study Area Criteria Air Pollutant Emissions (tons per year)				
Emission Source	VOC	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
Transportation <sup>a</sup>	45	337	35	15
Energy <sup>b</sup>	6	120	9	9
Off-Road Equipment <sup>c</sup>	71	45	2	1
Consumer Products <sup>d</sup>	310	0	0	0
<b>Total</b>	<b>433</b>	<b>501</b>	<b>46</b>	<b>25</b>

Notes:

a. On-road transportation VMT is provided by VMT and modeled with EMFAC2021. VMT for the proposed General Plan is based on the “project’s effect” of VMT in the EIR Study Area.

b. Building electricity and natural gas are based on data provided by the City for the GHG emissions inventory conducted for their Climate Change Action Plan from PG&E, PCE, and CalEEMod User’s Guide for natural gas criteria air pollutant emissions. The electricity rates were adjusted to reflect the increase in housing units and employment within the EIR Study Area.

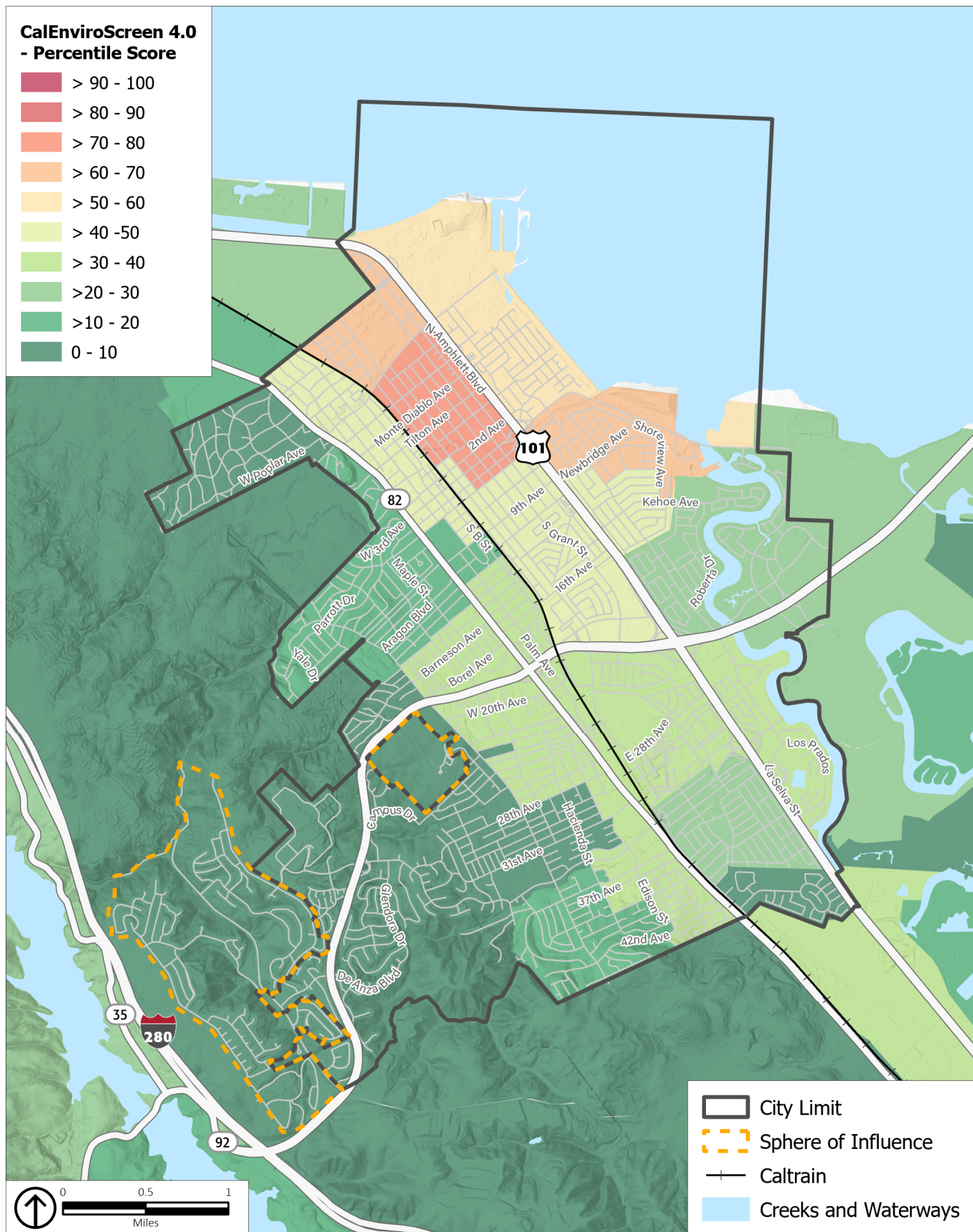
c. On-road vehicles and equipment are based on the OFFROAD2021 emissions inventory and include construction equipment and commercial equipment.

d. Household consumer product use based on the emissions factors in the CalEEMod Users Guide Version 2022.1.1.13.

<sup>35</sup> Bay Area Air Quality Management District, 2016, May. Planning Healthy Places.

[https://www.baaqmd.gov/~media/files/planning-and-research/planning-healthy-places/php\\_may20\\_2016-pdf.pdf?la=en](https://www.baaqmd.gov/~media/files/planning-and-research/planning-healthy-places/php_may20_2016-pdf.pdf?la=en), accessed May 25, 2023.

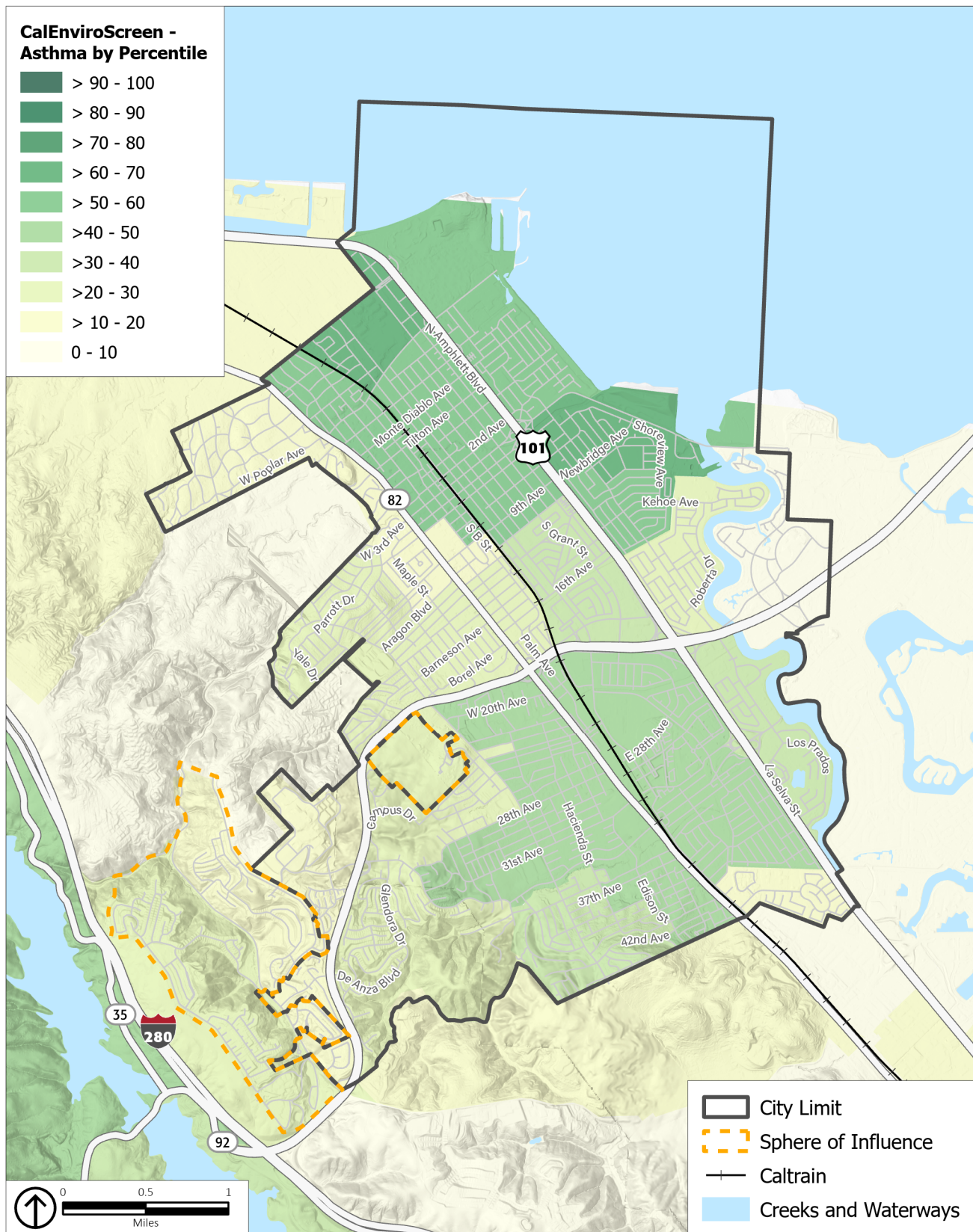
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Source: CalOEHHA, 2021; PlaceWorks, 2023.

Figure 4.2-4  
CES4 Indicator – Cumulative Score by Percentile

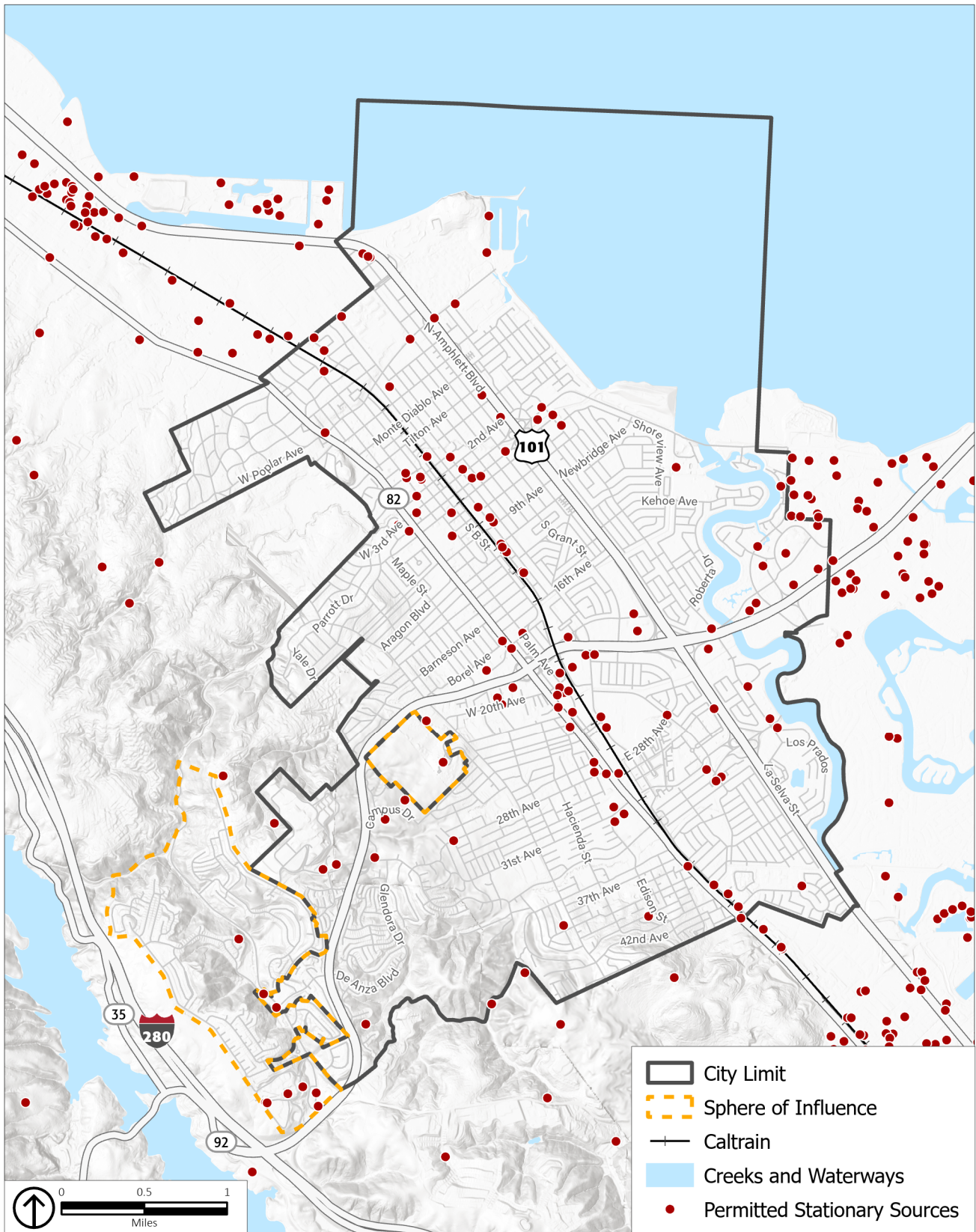
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Source: CalOEHHA, 2021; PlaceWorks, 2023.

Figure 4.2-5  
CES4 Indicator – Asthma by Percentile

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Source: BAAQMD, 2021; PlaceWorks, 2023.

Figure 4.2-6  
San Mateo Siting Recommendations

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### *Stationary Sources*

Stationary sources of air pollution—including complex sources such as metal smelting, wastewater treatment plants, and refineries as well as smaller facilities such as diesel generators, gasoline dispensing facilities (GDFs or gas stations), and boilers—are regulated and subject to permit conditions established by BAAQMD.<sup>36</sup> Stationary sources in the EIR Study Area are shown on Figure 4.2-6.

### *Odors*

The city of San Mateo has a wastewater treatment plant that has the potential to generate odors. Odors are also associated with certain manufacturing processes and with some commercial operations (restaurants, etc.) that may be located near residential uses. Nuisance odors are regulated under BAAQMD Regulation 7, Odorous Substances, and Regulation 1, Rule 1-301, Public Nuisance. Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance.

## 4.2.2 STANDARDS OF SIGNIFICANCE

The proposed project would result in a significant air quality impact if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard.
3. Expose sensitive receptors to substantial pollutant concentrations.
4. Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.
5. In combination with past, present, and reasonably foreseeable projects, result in cumulative air quality impacts in the area.

### **BAAQMD Plan-Level Significance Criteria**

The BAAQMD *CEQA Air Quality Guidelines* were prepared to assist in the evaluation of air quality impacts of projects and plans proposed within the Bay Area. The guidelines provide recommended procedures for evaluating potential air impacts during the environmental review process, consistent with CEQA requirements, and include recommended thresholds of significance, mitigation measures, and background air quality information. They also include recommended assessment methodologies for air toxics, odors, greenhouse gas emissions, and environmental justice.

In June 2010, BAAQMD's Board of Directors adopted CEQA thresholds of significance and an update of the CEQA Guidelines. These thresholds are designed to establish the level at which BAAQMD believed air

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<sup>36</sup> Permitted facilities are mapped by BAAQMD and can be found at: <https://baaqmd.maps.arcgis.com/apps/webappviewer/index.html?id=2387ae674013413f987b1071715daa65>, accessed May 25, 2023.

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pollution emissions would cause significant environmental impacts under CEQA. BAAQMD published a new version of the Guidelines dated April 2023.<sup>37</sup> This latest version of the BAAQMD CEQA Guidelines was used to prepare the analysis in this EIR.

### *Clean Air Plan Consistency*

Under its plan-level review criteria, which apply to long-range plans such as the proposed project, BAAQMD recommends a consistency evaluation of the plan with its current Air Quality Plan Management (AQMP) control measures. BAAQMD considers a plan to be consistent with the applicable AQMP, which is currently the 2017 Clean Air Plan, if it is consistent with below considerations:

- Does the project support the primary goals of the AQMP?
- Does the project include applicable control measures from the AQMP?
- Does the project disrupt or hinder implementation of any AQMP control measure?
- Does the project result in VMT growth that is equal to or less than the projected population growth?

### *Criteria Air Pollutant Emissions and Precursors*

### Regional Significance Criteria

BAAQMD's regional significance criteria for projects that exceed the screening thresholds are shown in Table 4.2-6, *BAAQMD Regional (Mass Emissions) Criteria Air Pollutant Significance Thresholds*. Criteria for both the construction and operational phases of the project are shown.

**TABLE 4.2-6 BAAQMD REGIONAL (MASS EMISSIONS) CRITERIA AIR POLLUTANT SIGNIFICANCE THRESHOLDS**

Air Pollutant	Construction Phase	Operational Phase	
	Average Daily Emissions (lbs/day)	Average Daily Emissions (lbs/day)	Maximum Annual Emissions (Tons/year)
<b>Project-Level</b>			
ROG	54	54	10
NO <sub>x</sub>	54	54	10
PM <sub>10</sub>	82 (Exhaust)	82	15
PM <sub>2.5</sub>	54 (Exhaust)	54	10
PM <sub>10</sub> and PM <sub>2.5</sub> Fugitive Dust	Best Management Practices	None	None
<b>Plan-Level</b>			
All Criteria Air Pollutants	No Net Increase		

Source: Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

While the proposed General Plan is a local long-range plan, the land use pattern envisioned by the proposed General Plan has regional implications, such as interjurisdictional transportation behavior and jobs-to-housing ratios; therefore, it would have a less-than-significant impact related to air quality if it

<sup>37</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

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demonstrates “no net increase” in criteria air pollutants and risks and hazards. To demonstrate no net increase, BAAQMD’s Guidelines require two comparative analyses for the projected future emissions:

- **Scenario 1:** Project to Existing Conditions (base-to-future-year comparison). Compare the existing (base year) emissions with projected future year emissions plus the regional plan’s emissions (base year/regional plan comparison).
- **Scenario 2:** Project to Future No Project Conditions (future baseline comparison). Compare projected future year emissions with projected future year emissions plus the regional plan’s emissions (no regional plan/regional plan comparison). This scenario isolates changes in emissions due solely to the project since both the scenarios consider emissions reductions from federal and state regulations.

If both comparative analyses demonstrate no net increase in emissions, the air quality and GHG impacts of the regional plan would be less than significant.

### *Health Effects of Criteria Air Pollutants*

If projects exceed the emissions in Table 4.2-6, emissions would cumulatively contribute to the nonattainment status and would contribute in elevating health effects associated to these criteria air pollutants. Known health effects related to ozone include worsening of bronchitis, asthma, and emphysema and a decrease in lung function. Health effects associated with particulate matter include premature death of people with heart or lung disease, nonfatal heart attacks, irregular heartbeat, decreased lung function, and increased respiratory symptoms. Reducing emissions would further contribute to reducing possible health effects related to criteria air pollutants.

However, for projects that exceed the emissions in Table 4.2-6, it is speculative to determine how exceeding the regional thresholds would affect the number of days the region is in nonattainment since mass emissions are not correlated with concentrations of emissions or how many additional individuals in the SFBAAB would be affected by the health effects cited above. BAAQMD is the primary agency responsible for ensuring the health and welfare of sensitive individuals to elevated concentrations of air quality in the SFBAAB and at the present time, it has not provided methodology to assess the specific correlation between mass emissions generated and the effect on health in order to address the issue raised in *Sierra Club v. County of Fresno (Friant Ranch, L.P.) (2018) 6 Cal.5<sup>th</sup> 502, Case No. S21978* (Friant Ranch).

Ozone concentrations are dependent upon a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Because of the complexities of predicting ground-level ozone concentrations in relation to the National AAQS and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds. To achieve the health-based standards established by the EPA, the air districts prepare air quality management plans that detail regional programs to attain the AAQS. However, if a project within the Plan Area exceeds the regional significance thresholds, the project could contribute to an increase in health effects in the basin until such time the attainment standards are met in the SFBAAB.

## *Receptor Exposure to Pollutant Concentrations*

### Local Carbon Monoxide Hotspots

Congested intersections have the potential to create elevated concentrations of CO, referred to as CO hotspots. The significance criteria for CO hotspots are based on the California AAQS for CO, which are 9.0 ppm (8-hour average) and 20.0 ppm (1-hour average). Under a plan-level review, BAAQMD does not require an evaluation of CO hotspots. With the turnover of older vehicles, introduction of cleaner fuels, and implementation of control technology, the SFBAAB is in attainment of the California and National AAQS for CO emissions, and CO concentrations in the SFBAAB have steadily declined. Because CO concentrations have improved, BAAQMD does not require a CO hotspot analysis if the following criteria are met:<sup>38</sup>

- The project is consistent with an applicable congestion management program established by the County Congestion Management Agency for designated roads or highways, the regional transportation plan, and local congestion management agency plans.
- The project would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.
- The project traffic would not increase traffic volumes at affected intersection to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

### *Community Risk and Hazards*

BAAQMD's significance thresholds for local community risk and hazard impacts apply to both the siting of a new source and to the siting of a new receptor. Local community risk and hazard impacts are associated with TACs and PM<sub>2.5</sub> because emissions of these pollutants can have significant health impacts at the local level. The proposed project would generate TACs and PM<sub>2.5</sub> during construction activities that could elevate concentrations of air pollutants at the nearby receptors. The thresholds for construction-related local community risk and hazard impacts are the same as for project operations. BAAQMD has adopted screening tables for air toxics evaluation during construction.<sup>39</sup> Construction-related TAC and PM<sub>2.5</sub> impacts are addressed on a case-by-case basis, taking into consideration the specific construction-related characteristics of each project and proximity to off-site and on-site receptors, as applicable.<sup>40,41</sup>

<sup>38</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

<sup>39</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

<sup>40</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

<sup>41</sup> Bay Area Air Quality Management District, 2017, January 5. Air Quality Standards and Attainment Status. <http://www.baaqmd.gov/research-and-data/air-quality-standards-and-attainment-status#thirteen>, accessed May 25, 2023.

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### Community Risk and Hazards: Project

Project-level emissions of TACs or PM<sub>2.5</sub> from individual sources that exceed any of the thresholds listed below are considered a potentially significant community health risk in the absence of a qualified community risk reduction plan:

- An excess (i.e., increased) cancer risk level of more than 10 in one million
- Noncancer (i.e., chronic or acute) hazard index greater than 1.0
- An incremental increase of greater than 0.3 micrograms per cubic meter (µg/m<sup>3</sup>) annual average PM<sub>2.5</sub><sup>42</sup>

### Community Risk and Hazards: Cumulative

Cumulative sources represent the combined total risk values of each of the individual sources within the 1,000-foot evaluation zone. A project would have a cumulatively considerable impact if the aggregate total of all past, present, and foreseeable future sources within a 1,000-foot radius from the fence line of a source or location of a receptor, plus the contribution from the project, exceeds any of the following in the absence of a qualified community risk reduction plan:

- An excess cancer risk level of more than 100 in one million (from all sources)
- Chronic noncancer hazard index (from all local sources) greater than 10.0
- 0.8 µg/m<sup>3</sup> annual average PM<sub>2.5</sub> (from all local sources)<sup>43</sup>

In February 2015, the Office of Environmental Health Hazard Assessment (OEHHA) adopted new health risk assessment guidance that includes several efforts to be more protective of children's health. These updated procedures include the use of age sensitivity factors to account for the higher sensitivity of infants and young children to cancer causing chemicals, and age-specific breathing rate.<sup>44</sup>

### *Odor Impacts*

BAAQMD's thresholds for odors are qualitative based on BAAQMD's Regulation 7, Odorous Substances. This rule places general limitations on odorous substances and specific emission limitations on certain odorous compounds. In addition, odors are also regulated under BAAQMD Regulation 1, Rule 1-301, Public Nuisance, which states that no person shall 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 the public; or which endangers the comfort, repose, health or safety of any such persons or the public, or which causes, or has a natural tendency to cause, injury or damage to business or property. Under BAAQMD's Rule 1-301, a facility that receives three or more violation notices within a 30-day period can be declared a public nuisance. BAAQMD has established odor

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<sup>42</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

<sup>43</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

<sup>44</sup> California Office of Environmental Health Hazard Assessment, February 2015, *Air Toxics Hot Spots Program Risk Assessment Guidelines*, <https://oehha.ca.gov/media/downloads/cnr/2015guidancemanual.pdf>, accessed June 1, 2023.

screening thresholds for land uses that have the potential to generate substantial odor complaints, including wastewater treatment plants, landfills or transfer stations, composting facilities, confined animal facilities, food manufacturing, and chemical plants.<sup>45</sup> For a plan-level analysis, BAAQMD requires:

- Potential existing and planned locations of odor sources to be identified.
- Policies to reduce odors.

## 4.2.3 IMPACT DISCUSSION

### Methodology

#### *Emissions Quantification*

This air quality evaluation was prepared in accordance with the requirements of CEQA to determine if significant air quality impacts are likely to occur in conjunction with future development that would be accommodated by the proposed project. BAAQMD has published CEQA Guidelines that provides local governments with guidance for analyzing and mitigating air quality impacts and was used in this analysis. The EIR Study Area's criteria air pollutant emissions inventory includes the following sectors:

- **Transportation:** Transportation emissions forecasts were modeled using emission rates from CARB's EMFAC2021, version 1.0.2 web database. Model runs were based on daily VMT data provided by Kittelson and Associates, Inc. (see Appendix D, *Noise Data*, and Chapter 4.15, *Transportation*, of this Draft EIR) adjusted for the population and employment in the EIR Study Area in year 2019. The VMT provided includes the full trip length for land uses in the EIR Study Area. Consistent with CARB's methodology within the Climate Change Scoping Plan Measure Documentation Supplement, daily VMT was multiplied by 347 days per year to account for reduced traffic on weekends and holidays to determine annual emissions.
- **Energy:** Energy use for residential and nonresidential land uses in the EIR Study Area were modeled using natural gas data provided by PG&E and PCE. Residential energy and non-residential energy forecasts are adjusted for increases in housing units and employment, respectively.
- **Off-Road Equipment:** Emission rates from CARB's OFFROAD2021, version 1.0.1, web database were used to estimate criteria air pollutant emissions from light commercial and construction equipment in the EIR Study Area. OFFROAD2021 is a database of equipment use and associated emissions for each county compiled by CARB. Emissions were compiled using OFFROAD2021 for the County of San Mateo for year 2019. In order to determine the percentage of emissions attributable to the city, light commercial equipment is estimated based on employment for the City of San Mateo as a percentage of San Mateo County. Construction equipment use is estimated based on service population for the City of San Mateo and County of San Mateo from data compiled by the US Census. The light commercial equipment emissions forecast is adjusted for changes in employment in the EIR Study Area. It is assumed that construction emissions for the forecast year would be similar to historical levels. Annual emissions are derived by multiplying daily emissions by 365 days. Agricultural

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<sup>45</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

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equipment was not evaluated in the EIR Study Area since there were no agricultural land use designations.

- **Area Sources:** Area sources are based on the emission factors from the CalEEMod Users Guide for emissions generated from use of household consumer products and cleaning supplies.

### *Impacts of the Environment on a Project*

BAAQMD's CEQA Guidelines include methodology for jurisdictions wanting to evaluate the potential quantitative impacts from placing sensitive receptors proximate to major air pollutant sources as part of individual projects. For assessing community risk and hazards for siting a new receptor, sources within a 1,000-foot radius of a project site are typically considered. Sources are defined as freeways, high volume roadways, large distribution centers, and permitted sources. For plan-level impact determination such as this EIR on the proposed General Plan, the analysis is limited to whether the plan has policies or overlay zones to reduce impacts.<sup>46</sup>

Buildout under the proposed project could result in siting sensitive uses (e.g., residential) near sources of emissions (e.g., freeways, industrial uses, etc.). Developing new sensitive land uses near sources of emissions could expose people potential air quality-related impacts. However, the purpose of this environmental evaluation is to identify the significant effects of the proposed project on the environment, not the significant effects of the environment on the proposed project, as determined by the California Supreme Court in *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4<sup>th</sup> 369 (Case No. S213478). Thus, CEQA does not require analysis of the potential environmental effects from siting sensitive receptors near existing sources, and this type of analysis is not provided in the impact discussion below.

While it is generally not within the purview of CEQA to analyze impacts of the environment on a project, the proposed General Plan includes policy guidance which would ensure priority of the health of San Mateo City's residents through enforcement of the municipal code and incorporation of design features to minimize air quality impacts and to achieve appropriate health standards. The following General Plan 2040 goals, policies, and actions would serve to protect air quality in the EIR Study Area:

- **Goal COS-4:** Goals, policies, and actions focused on equity priority communities can be found throughout the General Plan. The Land Use Element also includes goals and policies on environmental justice under Goal LU-8. All San Mateo residents should have the ability to breathe safe, clean air.
  - **Policy COS 4.1: Air Quality Thresholds.** Use thresholds of significance that match or are more stringent than the air quality thresholds of significance identified in the current Bay Area Air Quality Management District (BAAQMD) Air Quality Guidelines when evaluating air quality impacts of projects.

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<sup>46</sup> Bay Area Air Quality Management District, April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

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- **Policy COS 4.2: Health Risk Assessment.** Require new development not exempt from CEQA that includes sensitive receptors to prepare Health Risk Assessments. Identify appropriate mitigation, based on the findings of the Health Risk Assessment, to reduce health risks from major sources of toxic air pollution, such as high-volume roadways, stationary sources, permitted sources from BAAQMD, and warehousing.
- **Policy COS 4.3: BAAQMD Planning for Healthy Places.** Require new development to adhere to BAAQMD's Planning for Healthy Places guidance when local conditions warrant.
- **Policy COS 4.4: Activity Near Sensitive Receptors.** Comply with State regulations that prohibit nonessential idling of vehicles near sensitive receptors, such as the requirements outlined in Title 13 of the California Code of Regulations (CCR).
- **Policy COS 4.5: Odors.** When proposed development generating odors is proposed near residences or sensitive receptors, either adequate buffer distances shall be provided (based on recommendations and requirements of the California Air Resources Board [CARB] and BAAQMD), or filters or other equipment/solutions shall be provided to reduce the potential exposure to acceptable levels. Potential mitigation associated with this policy requirement will be coordinated with any required permit conditions from BAAQMD.

When new residential or other sensitive receptors are proposed near existing sources of odors, either adequate buffer distances shall be provided (based on recommendations and requirements of CARB and BAAQMD), or filters or other equipment/solutions shall be provided to reduce the potential exposure to acceptable levels.

- **Policy COS 4.6: Toxic Air Contaminants.** Require that when new development that would be a source of toxic air contaminants (TACs) is proposed near residences or sensitive receptors, either adequate buffer distances shall be provided (based on recommendations and requirements of CARB and BAAQMD), or filters or other equipment/solutions shall be provided to reduce the potential exposure to acceptable levels.

When new residential or other sensitive receptors are proposed near existing sources of TACs, either adequate buffer distances shall be provided (based on recommendations and requirements of CARB and BAAQMD), or filters or other equipment/solutions shall be provided to the source to reduce the potential exposure to acceptable levels.

- **Policy COS 4.7: Air Quality Construction Impacts.** Require new construction and grading activities to mitigate air quality impacts generated during construction activities in compliance with BAAQMD's regulations and guidelines on construction activity impacts.
- **Policy COS 4.8: Truck Facilities.** Require new development, when applicable, to provide adequate truck parking loading space, and generators for refrigerated trucks to prevent idling during truck operation.
- **Policy COS 4.9: Air Pollution Exposure.** For new development that is located within 1,000 feet from US Highway 101 and State Route 92, require installation of enhanced ventilation systems and other strategies to protect people from respiratory, heart, and other health effects associated with breathing polluted air.

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- **Action COS 4.10: Air Quality Improvement.** Support and partner with Bay Area Air Quality Management District (BAAQMD) in monitoring, education, permitting, enforcement, grants programs, or other efforts to improve air quality issues and health outcomes for all.
- **Action COS 4.11: Clean Air Refuges.** Develop and implement a plan to provide clean air refuges during times when outdoor air quality is unhealthy. Explore the feasibility of participating in State grant programs to fund retrofits of ventilation systems at public buildings to provide refuge for residents during periods of unhealthy air quality caused by excessive smoke from wildfires.

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<b>AQ-1</b>	<b>The proposed project would not conflict with or obstruct implementation of the BAAQMD Clean Air Plan.</b>
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The following describes potential air quality impacts of consistency with the AQMP from the implementation of the proposed project.

### Bay Area Clean Air Plan – Criteria Air Pollutants and Precursors

The proposed project plays an important role in local agency project review by linking local planning and individual projects to the *2017 Clean Air Plan*. It fulfills the CEQA goal of informing decision makers of the environmental efforts of the project under consideration at an early enough stage to ensure that air quality concerns are fully addressed. It also provides the local agency with ongoing information as to whether they are contributing to clean air goals in the Bay Area.

BAAQMD requires a consistency evaluation of a proposed plan with the current AQMP control measures. As previously discussed, BAAQMD considers project consistency with the AQMP in accordance with the following:

- Does the project support the primary goals of the AQP?
- Does the project include applicable control measures from the AQP?
- Does the project disrupt or hinder implementation of any AQP control measures?

In addition, long-range plans must demonstrate consistency with the projected growth rate of vehicle activity in VMT or vehicle trips under the plan, as follows:

- Is the project VMT or vehicle trip increase less than or equal to the projected population increase?

### Bay Area Air Quality Management District 2017 Clean Air Plan Goals

The primary goals of the 2017 Clean Air Plan are to attain the State and federal AAQS, reduce population exposure and protect public health in the Bay Area, reduce GHG emissions and protect the climate. Furthermore, the 2017 Clean Air Plan lays the groundwork for reducing GHG emissions in the Bay Area to meet the State's 2030 GHG reduction target and the long-term GHG reduction goals.

#### *Attain Air Quality Standards*

BAAQMD's 2017 Clean Air Plan strategy is based on regional population and employment projections in the Bay Area compiled by ABAG, which are based in part on cities' General Plan land use designations.

These demographic projections are incorporated into Plan Bay Area. Demographic trends incorporated into Plan Bay Area determine VMT in the Bay Area, which BAAQMD uses to forecast future air quality trends. The 2017 Clean Air Plan is based on data used in Plan Bay Area 2040. The SFBAAB is currently designated a nonattainment area for  $O_3$ ,  $PM_{2.5}$ , and  $PM_{10}$  (State AAQS only).

As discussed in Chapter 4.13, *Population and Housing*, of this Draft EIR, the expected buildout under the proposed project would exceed the Plan Bay Area 2040 regional growth projections for housing by 32 percent and population by 25 percent.<sup>47</sup> However, the proposed project would result in an overall decrease in VMT per service population compared to existing conditions (see Table 4.2-9, *Comparison of the Change in Population and VMT in the EIR Study Area*). The Land Use (LU) Element of the proposed General Plan also provides goals, policies, and actions that would serve to minimize potential adverse impacts related to growth in the EIR Study Area (see impact discussion POP-1 in Chapter 4.13). Therefore, implementation of the proposed project would not introduce a substantial unplanned growth in population in the EIR Study Area and potential future development would primarily occur in ten General Plan Land Use Study Areas (including current buildings that are aging, vacant, or not maintained).

As discussed in greater detail under impact discussion AQ-2, individual development projects facilitated by the proposed project would be required to undergo their own respective CEQA environmental review. In determining whether an individual development project would be considered a project under CEQA that would have potentially significant impacts on local and regional air quality, including consideration of an individual development project's contribution to an existing or forecasted air quality violation, BAAQMD recommends project-level significance thresholds for criteria pollutants and ozone precursors. Therefore, the population projections of the proposed project would be consistent with regional projections. The emissions resulting from potential future development associated with the proposed project are included in the BAAQMD projections, and future development accommodated under the proposed project would not hinder BAAQMDs ability to attain the California or National AAQS. Accordingly, this impact would be *less than significant*.

#### *Reduce Population Exposure and Protect Public Health*

Future development and activities under the proposed project could result in new sources of TACs and  $PM_{2.5}$ . Stationary sources, including smaller stationary sources associated with residential development (e.g., emergency generators and boilers), are subject to review by BAAQMD as part of the permitting process. Adherence to the BAAQMD permitting regulations would ensure that new stationary sources of TACs do not expose populations to significant health risk. Mobile sources of air toxics (e.g., truck idling) are not regulated directly by BAAQMD. However, residential development associated with the proposed project would not generate substantial truck traffic or idling. Furthermore, individual development projects would be required to achieve the project-level risk thresholds established by BAAQMD to ensure the sensitive receptor impact resulting from the subject development project would be *less than significant*.

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<sup>47</sup> It should be noted that Plan Bay Area 2040 projections have been superseded by Plan Bay Area 2050 projections, but ABAG/MTC has not made updated projections available at the jurisdiction level, so it is not possible to compare projected growth under the proposed General Plan to Plan Bay Area 2050 projections.

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### *Reduce GHG Emissions and Protect the Climate*

Consistency of the proposed project with State, regional, and local plans adopted for the purpose of reducing GHG emissions are discussed in Chapter 4.7, *Greenhouse Gas Emissions*, of this Draft EIR. Future development allowed by the proposed project would be required to adhere to statewide measures that have been adopted to achieve the GHG reduction targets of SB 32 and AB 1279. The proposed project is consistent with regional strategies for infill development identified in Plan Bay Area 2050 and the proposed CAP update does not include changes to the strategies in the City's 2020 CAP. Moreover, as discussed under impact discussion GHG-1 in Chapter 4.7, the proposed General Plan and accompanying CAP update would meet legislative GHG emission reduction targets established under SB 32 and AB 1279. Therefore, the proposed project is consistent with the goal of the *2017 Clean Air Plan* to reduce GHG emissions and protect the climate, and the impact would be *less than significant*.

### *2017 Clean Air Plan Control Measures*

Table 4.2-7, *Control Measures from the BAAQMD 2017 Clean Air Plan*, identifies the control measures included in the *2017 Clean Air Plan* that are required by BAAQMD to reduce emissions for a wide range of both stationary and mobile sources. As shown in Table 4.2-7, the proposed project would not conflict with the *2017 Clean Air Plan* and would not hinder BAAQMD from implementing the control measures in the *2017 Clean Air Plan*. Accordingly, this impact would be *less than significant*.

**TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN**

Type	Measure Number / Title	Consistency
Stationary Source Control Measures	<ul style="list-style-type: none"> <li>▪ SS 1 – Fluid Catalytic Cracking in Refineries</li> <li>▪ SS 2 – Equipment Leaks</li> <li>▪ SS 3 – Cooling Towers</li> <li>▪ SS 4 – Refinery Flares</li> <li>▪ SS 5 – Sulfur Recovery Units</li> <li>▪ SS 6 – Refinery Fuel Gas</li> <li>▪ SS 7 – Sulfuric Acid Plants</li> <li>▪ SS 8 – Sulfur Dioxide from Coke Calcining</li> <li>▪ SS 9 – Enhanced NSR Enforcement for Changes in Crude Slate</li> <li>▪ SS 10 – Petroleum Refining Emissions Tracking</li> <li>▪ SS 11 – Petroleum Refining Facility-Wide Emission Limits</li> <li>▪ SS 12 – Petroleum Refining Climate Impacts Limit</li> <li>▪ SS 13 – Oil and Gas Production, Processing and Storage</li> <li>▪ SS 14 – Methane from Capped Wells</li> <li>▪ SS 15 – Natural Gas Processing and Distribution</li> <li>▪ SS 16 – Basin-Wide Methane Strategy</li> <li>▪ SS 17 – GHG BACT Threshold</li> <li>▪ SS 18 – Basin-Wide Combustion Strategy</li> <li>▪ SS 19 – Portland Cement</li> </ul>	<p>Stationary and area sources are regulated directly by BAAQMD; therefore, as the implementing agency, new stationary and area sources within the EIR Study Area would be required to comply with BAAQMD regulations. BAAQMD routinely adopts/revises rules or regulations to implement the stationary source (SS) control measures to reduce stationary source emissions. Based on the new development under the proposed project, implementation of the proposed project would not hinder the ability of BAAQMD to implement these SS control measures. Major stationary source are more commonly associated with industrial manufacturing or warehousing. However, BAAQMD and the City have existing regulations in place to ensure potential future development under the proposed project would not conflict with the applicable SS control measures. Non-residential land uses may generate small quantities of stationary source emissions during project operation (e.g., emergency generators, dry cleaners, and gasoline dispensing facilities); however, these small-quantity generators would require review by BAAQMD for permitted sources of air toxics, which would ensure consistency with the 2017 Clean Air Plan.</p> <p>The proposed project involves residential and commercial uses that would not include major</p>

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**TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN**

Type	Measure Number / Title	Consistency
	<ul style="list-style-type: none"> <li>▪ SS 20 – Air Toxics Risk Cap and Reduction from Existing Facilities</li> <li>▪ SS 21 – New Source Review for Toxics</li> <li>▪ SS 22 – Stationary Gas Turbines</li> <li>▪ SS 23 – Biogas Flares</li> <li>▪ SS 24 – Sulfur Content Limits of Liquid Fuels</li> <li>▪ SS 25 – Coatings, Solvents, Lubricants, Sealants and Adhesives</li> <li>▪ SS 26 – Surface Prep and Cleaning Solvent</li> <li>▪ SS 27 – Digital Printing</li> <li>▪ SS 28 – LPG, Propane, Butane</li> <li>▪ SS 29 – Asphaltic Concrete</li> <li>▪ SS 30 – Residential Fan Type Furnaces</li> <li>▪ SS 31 – General Particulate Matter Emission Limitation</li> <li>▪ SS 32 – Emergency Backup Generators</li> <li>▪ SS 33 – Commercial Cooking Equipment</li> <li>▪ SS 34 – Wood Smoke</li> <li>▪ SS 35 – PM from Bulk Material Storage, Handling and Transport, Including Coke and Coal</li> <li>▪ SS 36 – PM from Trackout</li> <li>▪ SS 37 – PM from Asphalt Operations</li> <li>▪ SS 38 – Fugitive Dust</li> <li>▪ SS 39 – Enhanced Air Quality Monitoring</li> <li>▪ SS 40 – Odors</li> </ul>	stationary sources of emissions. Boilers and emergency generators for multi-family residential products would be required to follow BAAQMD's permitting requirements.
Transportation Control Measures	<ul style="list-style-type: none"> <li>▪ TR 1 – Clean Air Teleworking Initiative</li> <li>▪ TR 2 – Trip Reduction Programs</li> <li>▪ TR 3 – Local and Regional Bus Service</li> <li>▪ TR 4 – Local and Regional Rail Service</li> <li>▪ TR 5 – Transit Efficiency and Use</li> <li>▪ TR 6 – Freeway and Arterial Operations</li> <li>▪ TR 7 – Safe Routes to Schools and Safe Routes to Transit</li> <li>▪ TR 8 – Ridesharing, Last-Mile Connection</li> <li>▪ TR 9 – Bicycle and Pedestrian Access and Facilities</li> <li>▪ TR 10 – Land Use Strategies</li> <li>▪ TR 11 – Value Pricing</li> <li>▪ TR 12 – Smart Driving</li> <li>▪ TR 13 – Parking Policies</li> <li>▪ TR 14 – Cars and Light Trucks</li> <li>▪ TR 15 – Public Outreach and Education</li> <li>▪ TR 16 – Indirect Source Review</li> <li>▪ TR 17 – Planes</li> <li>▪ TR 18 – Goods Movement</li> <li>▪ TR 19 – Medium and Heavy Duty Trucks</li> </ul>	<p>Transportation (TR) control measures are strategies to reduce vehicle trips, vehicle use, VMT, vehicle idling, and traffic congestion for the purpose of reducing motor vehicle emissions. Although most of the TR control measures are implemented at the regional level—that is, by MTC or Caltrans—the 2017 Clean Air Plan relies on local communities to assist with implementation of some measures.</p> <p>The development under the proposed project would be reviewed based on the policies in the proposed General Plan. The Circulation (C), Community Design and Historic Resources (CD), Conservation, Open Space, and Recreation (COS), and Land Use (LU) Elements contain the following goals and policies to expand the pedestrian and bicycle network:</p> <p><b>Goal C-1:</b> Design and implement a multimodal transportation system that prioritizes walking, bicycling, and transit, and is sustainable, safe, and accessible for all users; connects the community using all modes of transportation; and reduces vehicle miles traveled (VMT) per capita.</p>

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**TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN**

Type	Measure Number / Title	Consistency
	<ul style="list-style-type: none"> <li>TR 20 – Ocean Going Vessels</li> <li>TR 21 – Commercial Harbor Craft</li> <li>TR 22 – Construction, Freight and Farming Equipment</li> <li>TR 23 – Lawn and Garden Equipment</li> </ul>	<ul style="list-style-type: none"> <li><b>Policy C-1.4: Prioritize Pedestrian and Bicycle Mobility Needs.</b> Prioritize local pedestrian and bicycle projects that enhance mobility, connectivity, and safety when designing roadway and intersection improvements.</li> </ul> <p><b>Goal C-3:</b> Build and maintain a safe, connected, and equitable pedestrian network that provides access to community destinations, such as employment centers, transit, schools, shopping, and recreation.</p> <ul style="list-style-type: none"> <li><b>Policy C-3.1: Pedestrian Network.</b> Create and maintain a safe, walkable environment in San Mateo to increase the number of pedestrians. Maintain an updated recommended pedestrian network for implementation. Encourage “superblock” or similar design in certain nodes of the city, such as the downtown, that allows vehicle access at the periphery and limits cut-through vehicles to create pedestrian-focused, car-light spaces.</li> <li><b>Policy C-3.2: Pedestrian Enhancements with New Development.</b> Require new development projects to provide sidewalks and pedestrian ramps and to repair or replace damaged sidewalks, in addition to right-of-way improvements identified in adopted City master plans. Encourage new developments to include pedestrian-oriented design to facilitate pedestrian path of travel.</li> <li><b>Policy C-3.3: Right-of-Way Improvements.</b> Require new developments to construct or contribute to improvements that enhance the pedestrian experience, including human-scale lighting, streetscaping, and accessible sidewalks adjacent to the site.</li> </ul> <p><b>Goal C-4:</b> Build and maintain a safe, connected, and equitable bicycle and micromobility network that provides access to community destinations, such as employment centers, transit, schools, shopping, and recreation.</p> <ul style="list-style-type: none"> <li><b>Policy C-4.1: Bicycle Network.</b> Create and maintain a bicycle-friendly environment in San Mateo and increase the number of people who choose to bicycle.</li> <li><b>Policy C-4.2: Bicycle Master Plan.</b> Maintain an updated recommended bicycle network for implementation in the adopted Bicycle Master Plan and related City plans.</li> <li><b>Policy C-4.6: Bicycle Improvements.</b> Require new developments to construct or contribute to improvements that enhance the cyclist experience, including bicycle lanes.</li> </ul>

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**TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN**

Type	Measure Number / Title	Consistency
		<ul style="list-style-type: none"> <li>▪ <b>Policy C-7.4: Bicycle Parking.</b> Require the provision of bicycle parking as part of new private developments.</li> </ul> <p><b>Goal CD-8:</b> Improve the visual and architectural character, livability, and vitality of mixed-use and commercial areas.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy CD-8.2: Human Scale Design.</b> Cultivate pedestrian activity in commercial and mixed-use areas by providing adequate sidewalk widths, activating ground-floor street façades with active uses, windows, plantings, and awnings, using high-quality construction materials, and including human-scale details and architectural features.</li> </ul> <p><b>Goal COS-7:</b> Provide the appropriate mix of parks and facilities that balances the needs of active and passive facilities, allows formal and informal uses, is accessible for all residents, and meets existing and future recreation needs.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy COS-7.5: Active Use Facilities.</b> Provide sufficient active-use facilities to support current needs and future trends, including, but not limited to, multiuse athletic turf areas; court games; action sports, e.g., bicycling; and a system of pedestrian and bicycle trails that will provide interconnectivity between parks.</li> </ul> <p><b>Goal LU-3:</b> Provide a wide range of land uses, including housing, parks, open space, recreation, retail, commercial services, office, and industrial to adequately meet the full spectrum of needs in the community.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy LU-3.8: Workplaces.</b> Develop office buildings and business parks to facilitate transit, pedestrian, and bicycle commutes. Provide compact development, mixed uses, and connectivity to transit to reduce vehicle miles traveled (VMT).</li> </ul>
Energy and Climate Control Measures	<ul style="list-style-type: none"> <li>▪ EN 1 – Decarbonize Electricity Production</li> <li>▪ EN 2 – Renewable Energy Decrease Electricity Demand</li> </ul>	<p>The energy and climate (EN) control measures are intended to reduce energy use as a means to reducing adverse air quality emissions.</p> <p>The development under the proposed project would be reviewed based on the policies in the proposed General Plan. The proposed Community Design and Historic Resources (CD), Public Services and Facilities (PSF), and Land Use (LU) Elements contain the following goals and policies that align with the City's goals to meet the State's carbon neutrality initiatives:</p> <p><b>Goal CD-6:</b> Develop and maintain an attractive urban fabric that reflects San Mateo's unique visual and</p>

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**TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN**

Type	Measure Number / Title	Consistency
		<p>architectural character.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy CD-6.3: Sustainable Design.</b> Encourage integration of sustainable design features and elements into the design of new buildings, including locating and orienting buildings to access solar exposure, preserving mature vegetation to the extent feasible, and using green building materials.</li> </ul> <p><b>Goal PSF-4:</b> Promote the development of a clean energy supply, energy-efficient technology, and telecommunications facilities that benefit all members of the community.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy PSF-4.1: Clean Energy.</b> Support the advancement of a carbon-neutral energy supply.</li> <li>▪ <b>Policy PSF-4.2: Energy Conservation.</b> Support efforts to reduce per-capita energy use.</li> <li>▪ <b>Policy PSF-4.3: Building Electrification.</b> Require electrification for new building stock and reduce fossil fuel usage for existing building stock at the time of building alteration.</li> <li>▪ <b>Policy PSF-4.4: Energy Resilience.</b> Require new development projects to incorporate energy-efficiency measures, electric equipment, solar energy systems, and battery storage into their projects (Building Integrated Photo-Voltaic/BIPV) and encourage existing development to incorporate solar energy systems and battery storage.</li> </ul> <p><b>Goal LU-10:</b> Make San Mateo strong and resilient by acting to significantly reduce greenhouse gas emissions and adapt to a changing climate.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy LU-10.2: Decarbonized Building Stock.</b> Eliminate the use of fossil fuels as an energy source in all new building construction and reduce the use of fossil fuels as an energy source in the existing building stock at the time of building alteration through requirements for all-electric construction.</li> </ul> <p>Furthermore, new developments accommodated under the proposed project would be built to comply with the latest Building Energy Efficiency Standards and CALGreen standards. Therefore, implementation of the proposed project would not conflict with these EN control measures.</p>
Buildings Control Measures	<ul style="list-style-type: none"> <li>▪ BL 1 – Green Buildings</li> <li>▪ BL 2 – Decarbonize Buildings</li> <li>▪ BL 3 – Market-Based Solutions</li> <li>▪ BL 4 – Urban Heat Island Mitigation</li> </ul>	<p>The buildings (BL) control measures focus on working with local governments to facilitate adoption of best GHG emissions control practices and policies.</p> <p>The development under the proposed project would be reviewed based on the policies in the proposed General Plan. The Community Design and Historic</p>

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**TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN**

Type	Measure Number / Title	Consistency
		<p>Resources (CD) and Land Use (LU) Elements contain the following goals and policies to promote energy efficiency and sustainability:</p> <p><b>Goal CD-6:</b> Develop and maintain an attractive urban fabric that reflects San Mateo’s unique visual and architectural character.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy CD-6.3: Sustainable Design.</b> Encourage integration of sustainable design features and elements into the design of new buildings, including locating and orienting buildings to access solar exposure, preserving mature vegetation to the extent feasible, and using green building materials.</li> </ul> <p><b>Goal LU-10:</b> Make San Mateo strong and resilient by acting to significantly reduce greenhouse gas emissions and adapt to a changing climate.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy LU-10.2: Decarbonized Building Stock.</b> Eliminate the use of fossil fuels as an energy source in all new building construction and reduce the use of fossil fuels as an energy source in the existing building stock at the time of building alteration through requirements for all-electric construction.</li> </ul> <p>In addition, as stated, new developments accommodated under the proposed project would be built to comply with the latest Building Energy Efficiency Standards and CALGreen standards. Thus, the proposed project would not conflict with these BL control measures.</p>
Agriculture Control Measures	<ul style="list-style-type: none"> <li>▪ AG 1 – Agricultural Guidance and Leadership</li> <li>▪ AG 2 – Dairy Digesters</li> <li>▪ AG 3 – Enteric Fermentation</li> <li>▪ AG 4 – Livestock Waste</li> </ul>	<p>Agricultural practices in the Bay Area accounts for a small portion, roughly 1.5 percent, of the Bay Area GHG emissions inventory. The GHGs from agriculture include methane and nitrous oxide, in addition to carbon dioxide. While the Agriculture (AG) control measures target larger scale farming practices that are not included in the proposed project, the potential development under the proposed project do not constitute any sites which currently host commercial agricultural operations.</p> <p>Therefore, implementation of the proposed project would not conflict with these AG control measures.</p>
Natural and Working Lands Control Measures	<ul style="list-style-type: none"> <li>▪ NW 1 – Carbon Sequestration in Rangelands</li> <li>▪ NW 2 – Urban Tree Planting</li> <li>▪ NW 3 – Carbon Sequestration in Wetlands</li> </ul>	<p>The control measures for the natural and working lands sector focus on increasing carbon sequestration on rangelands and wetlands.</p> <p>The development under the proposed project would be reviewed based on the policies in the proposed General Plan. The Conservation, Open Space, and Recreation (COS) and Community Design and Historic</p>

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**TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN**

Type	Measure Number / Title	Consistency
		<p>Resources (CD) Elements contain the following goals and policies to promote carbon sequestration:</p> <p><b>Goal COS-1:</b> Protect and enhance the City’s natural resource areas that provide plant and animal habitat and benefit human and ecological health and resilience.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy COS-1.1: Sensitive Natural Communities.</b> Protect riparian habitat and other sensitive natural communities. When an opportunity arises, restore natural resources, including wetlands.</li> <li>▪ <b>Policy COS-1.8: Development Near Wetlands or Water.</b> Avoid wetlands development where feasible (as defined under California Environmental Quality Act [CEQA] Guidelines, Section 15364). Restrict or modify proposed development in areas that contain wetlands or waters to ensure the continued health and survival of special-status species and sensitive habitat areas. Development projects shall be designed to avoid impacts on sensitive resources, or to adequately mitigate impacts by providing on-site or off-site replacement at a higher ratio. Project design modification should include adequate avoidance measures, such as the use of setbacks, buffers, and water quality, drainage-control features, or other measures to ensure that no net loss of wetland acreage, function, water quality protection, and habitat value occurs. This may include the use of setbacks, buffers, and water quality, drainage-control features, or other measures to maintain existing habitat and hydrologic functions of retained wetlands and waters of the US.</li> </ul> <p><b>Goal COS-3:</b> Protect and improve San Mateo’s creeks as valuable habitat and components of human and environmental health.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy COS-3.4: Groundwater Infiltration.</b> Protect existing open spaces, natural habitat, floodplains, and wetland areas that allow for percolation and infiltration of stormwater runoff to slow and reduce the flow of runoff and improve water quality and identify areas to protect when considering new development.</li> </ul> <p><b>Goal CD-3:</b> Protect heritage trees, street trees, and tree stands and maintain the health and condition of San Mateo’s urban forest.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy CD-3.2: Replacement Planting.</b> Require appropriate replacement planting or payment of an in-lieu fee when protected trees on public or private property are removed.</li> </ul>

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**TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN**

Type	Measure Number / Title	Consistency
		<ul style="list-style-type: none"> <li>▪ <b>Policy CD-3.7: Street Tree Equity.</b> Plant new street trees to increase the tree canopy throughout the city, especially in gateway areas and in tree-deficient neighborhoods; encourage neighborhood participation in tree planting programs.</li> </ul>
Water Control Measures	<ul style="list-style-type: none"> <li>▪ WR 1 – Limit GHGs from publicly owned treatment works (POTWs)</li> <li>▪ WR 2 – Support Water Conservation</li> </ul>	<p>The 2017 Clean Air Plan includes measures to reduce water use.</p> <p>The development under the proposed project would be reviewed based on the policies in the proposed General Plan. The Land Use (LU) and Conservation, Open Space, and Recreation (COS) Elements contain the following goals and policies to increase plumbing water efficiency and reduce landscape water use:</p> <p><b>Goal LU-10:</b> Make San Mateo strong and resilient by acting to significantly reduce greenhouse gas emissions and adapt to a changing climate.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy LU-10.1: Effects of Climate Change.</b> Consider the effects of climate change in updating or amending the General Plan, disaster planning, City projects, infrastructure planning, future policies, and long-term strategies. Recognize potential climate change consequences, such as sea level rise, flooding, higher groundwater, less availability of drinking water, hotter temperatures, increased wildfire risk, and changing air quality. Prioritize protecting equity priority communities from the disproportionate burden of climate hazards, including against risks of displacement and challenges in rebuilding after major incidents.</li> </ul> <p><b>Goal COS-8:</b> Plan and develop well-designed parks and recreation facilities compatible with surrounding uses that promote accessibility, efficient use, and practical maintenance.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy COS-8.7: Environmentally Sound Park Operations.</b> Use native and drought-tolerant plant species, efficient irrigation systems, reclaimed water, and sustainable management practices. Expand efforts to improve recycling opportunities in all parks and implement trash-reduction measures, especially during large community events.</li> </ul>
Super-GHG Control Measures	<ul style="list-style-type: none"> <li>▪ SL 1 – Short-Lived Climate Pollutants</li> <li>▪ SL 2 – Guidance for Local Planners</li> <li>▪ SL 3 – GHG Monitoring and Emissions Measurements Network</li> </ul>	<p>Super-GHGs include methane, black carbon and fluorinated gases. The compounds are sometimes referred to as short-lived climate pollutants because their lifetime in the atmosphere is generally fairly short. Measures to reduce super GHGs are addressed on a sector-by-sector basis in the 2017 Clean Air Plan. Through ongoing implementation of the City's 2020 CAP, the City will continue to reduce</p>

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**TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN**

Type	Measure Number / Title	Consistency
		<p>local GHG emissions, meet State, regional, and local reduction targets, which would ensure implementation of the proposed project would not conflict with these SL control measures.</p> <p>The development under the proposed project would be reviewed based on the policies in the proposed General Plan. The Public Services and Facilities (PSF) and Land Use (LU) Elements contain the following goals and policies for encouraging use of renewable energy.</p> <p><b>Goal PSF-4:</b> Promote the development of a clean energy supply, energy-efficient technology, and telecommunications facilities that benefit all members of the community.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy PSF-4.1: Clean Energy.</b> Support the advancement of a carbon-neutral energy supply.</li> <li>▪ <b>Policy PSF-4.4: Energy Resilience.</b> Require new development projects to incorporate energy-efficiency measures, electric equipment, solar energy systems, and battery storage into their projects (Building Integrated Photo-Voltaic/BIPV) and encourage existing development to incorporate solar energy systems and battery storage.</li> <li>▪ <b>Policy PSF-4.6: Renewable Energy Neighborhood Microgrids.</b> Encourage the establishment of renewable energy neighborhood microgrids to support resilience.</li> </ul> <p><b>Goal LU-10:</b> Make San Mateo strong and resilient by acting to significantly reduce greenhouse gas emissions and adapt to a changing climate.</p> <ul style="list-style-type: none"> <li>▪ <b>Policy LU-10.2: Decarbonized Building Stock.</b> Eliminate the use of fossil fuels as an energy source in all new building construction and reduce the use of fossil fuels as an energy source in the existing building stock at the time of building alteration through requirements for all-electric construction.</li> </ul>
Further Study Control Measures	<ul style="list-style-type: none"> <li>▪ FSM SS 1 – Internal Combustion Engines</li> <li>▪ FSM SS 2 – Boilers, Steam Generator and Process Heaters</li> <li>▪ FSM SS 3 – GHG Reductions from Non Cap-and Trade Sources</li> <li>▪ FSM SS 4 – Methane Exemptions from Wastewater Regulation</li> <li>▪ FSM SS 5 – Controlling start-up, shutdown, maintenance, and malfunction (SSMM) Emissions</li> <li>▪ FSM SS 6 – Carbon Pollution Fee</li> </ul>	<p>The majority of the further study control measures apply to sources regulated directly by BAAQMD. Because BAAQMD is the implementing agency, new and existing sources of stationary and area sources in the EIR Study Area would be required to comply with these additional further study control measures in the 2017 Clean Air Plan.</p>

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**TABLE 4.2-7 CONTROL MEASURES FROM THE BAAQMD 2017 CLEAN AIR PLAN**

Type	Measure Number / Title	Consistency
	<ul style="list-style-type: none"> <li>FSM SS 7 – Vanishing Oils and Rust Inhibitors</li> <li>FSM SS 8 – Dryers, Ovens and Kilns</li> <li>FSM SS 9 – Omnibus Rulemaking to Achieve Continuous Improvement</li> <li>FSM BL 1 – Space Heating</li> <li>FSM AG 1 – Wineries</li> </ul>	

Source: Bay Area Air Quality Management District, April 19, 2017, *Final 2017 Clean Air Plan, Spare the Air, Cool the Climate: A Blueprint for Clean Air and Climate Protection in the Bay Area*, [https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a\\_-proposed-final-cap-vol-1-pdf.pdf?la=en](https://www.baaqmd.gov/~/media/files/planning-and-research/plans/2017-clean-air-plan/attachment-a_-proposed-final-cap-vol-1-pdf.pdf?la=en), accessed May 25, 2023.

*Regional Growth Projections for VMT and Population*

As discussed above, one of the criteria for determining consistent with the current AQMP is comparing the Planning Area’s VMT growth with its population growth over the same planning horizon. Kittelson and Associates analyzed VMT for the proposed project to estimate the weekday citywide VMT generation for the proposed project in the Baseline Year (2019) No Project and Cumulative Year (2040) with Project scenarios. (See Chapter 4.15, *Transportation*, of this Draft EIR for a more detailed VMT discussion.)

Table 4.2-8, *EIR Study Area Projected Generated Total VMT*, displays the VMT estimates resulting from implementation of the proposed project, based on Kittelson and Associates’ analysis.

**TABLE 4.2-8 EIR STUDY AREA PROJECT GENERATED TOTAL VMT**

Category	Baseline Year (2019)	Cumulative Year (2040)	Net Change
Total VMT <sup>1</sup>	2,742,688	3,535,141	792,453

Notes:

<sup>1</sup> The above estimates are drawn directly from the Kittelson and Associates VMT Analysis (2023) prepared for the proposed project, which assumes a total 2040 buildout of 61,139 households. The proposed project assumes a total 2040 buildout of 61,140 households, as presented in Table 3-1, *Proposed General Plan 2040 Buildout Projections in the EIR Study Area*, in Chapter 3, *Project Description*, of this Draft EIR.

Source: Kittelson and Associates, 2023.

Table 4.2-9, *Comparison of the Change in Population and VMT in the EIR Study Area*, displays the Baseline Year (2019) No Project and Cumulative Year (2040) with Project estimates.

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**TABLE 4.2-9 COMPARISON OF THE CHANGE IN POPULATION AND VMT IN THE EIR STUDY AREA**

Category	Base Year (2019)	Cumulative Year (2040)	Change from Existing	
			Change	%
Service Population <sup>a</sup>	170,460	239,400	68,940	40.4%
Daily VMT <sup>b</sup>	3,918,221	5,108,862	1,190,641	30.4%
VMT/Service Population <sup>c</sup>	22.99	21.34	-1.65	-7.2%

Notes:

a. Service Population accounts for total population and jobs. See Table 3-1, Proposed General Plan 2040 Buildout Projections in the EIR Study Area, in Chapter 3, *Project Description*, of this Draft EIR.

b. Kittelson and Associates, 2023.

c. Daily per Capita VMT estimates are identified by dividing the Daily VMT estimates by the city population for the corresponding year. It should be noted that the Daily per capita VMT estimates above do not necessarily reflect VMT by each resident as the total Daily VMT estimates include nonresidential VMT.

Source: Kittelson and Associates, PlaceWorks, 2023.

Consistency with BAAQMD's AQMP requires that the VMT increase be less than or equal to the projected population increase from the proposed project (e.g., generate the same or less VMT per population). However, because the proposed project accommodates both residential and nonresidential growth, a better indicator of how efficiently the City is growing can be made by comparing the increase in VMT to the increase in service population (e.g., generate the same or less VMT per service population). This approach is similar to the efficiency metrics for GHG emissions, which consider the total service population when calculating project efficiency.

VMT estimates based on data provided by Kittelson and Associations were calculated for the EIR Study Area. As shown in Table 4.2-9, implementation of the proposed project would result in an increase for daily VMT by 1,190,641 vehicle miles per day in the EIR Study Area (about 30 percent increase) but lead to a lower VMT per service population than existing conditions (approximately 7 percent decrease). Thus, the proposed project would be consistent with the goals of the 2017 *Clean Air Plan* and this impact would be *less than significant*.

## Environmental Justice

BAAQMD's CEQA Air Quality Guidelines also require an analysis of consistency of the proposed project with applicable Community Emission Reduction Plans (CERPs) and local environmental justice policies. Environmentally overburdened, underserved, and economically distressed communities may be subject to a higher risk of pollutant-related health effects than the general population because they may be exposed to higher pollutant concentrations; they may experience a larger health impact at a given pollutant concentration; or they may be adversely affected by lower pollutant concentrations than the general population. The most critical air pollutant affecting health in the SFBAAB is PM<sub>2.5</sub>, which includes DPM. The burden of breathing unhealthy air is often disproportionately borne by low-income

communities and communities of color, many of which are situated closer to busy highways, ports, factories, and other pollution sources.<sup>48</sup>

The Land Use (LU) Element of the proposed General Plan integrates goals, policies, and actions that seek to lessen the environmental burden on disadvantaged populations. The process to develop environmental justice policy guidance involved extensive discussions and many meetings with community members and other stakeholders who live in, work in, or engage with communities that are most impacted by environmental justice issues to ensure the plan directly responds to the specific needs of Equity Priority Communities. Furthermore, the City has a Diversity, Equity, and Inclusion Committee to establish equity and inclusivity values within the community.<sup>49</sup>

The Land Use (LU) Element of the proposed General Plan includes broad policy guidance for environmental justice to help address vulnerabilities in Equity Priority Communities. In addition to the proposed General Plan goal, policies, and actions listed under the subheading “Impacts of the Environment on a Project” above, the following General Plan 2040 goals, policies, and actions would serve to reduce and/or avoid environmental effects on vulnerable populations:

- **Goal LU-8:** Support the equitable health and well-being of all neighborhoods in San Mateo and all members of the San Mateo community by improving conditions in equity priority communities.
  - **Policy LU 8.1: Prioritizing Community Health.** Continue to support the physical and mental health and well-being in equity priority communities by prioritizing public safety, resolving land use conflicts and incompatible uses that pose risks to health or safety, remediating contamination, and enforcing building code standards.
  - **Action LU 8.2: Collaborations for Community Health.** Develop intentional, strategic, and mutually beneficial relationships with organizations engaged in improving health and well-being, reducing environmental health disparities, expanding access to affordable quality healthcare and mental healthcare, and mitigating negative environmental health hazards. Encourage greater emphasis on expanding or improving health services, including mental health services, in equity priority communities.
  - **Action LU 8.3: Health Disparities.** Coordinate with the San Mateo County Public Health Department to promote healthier communities through education, prevention, intervention programs, and other activities that address health disparities and inequities that exist in San Mateo.
  - **Action LU 8.4: City Investment.** Use funds collected by the park impact fee to invest in programs and public improvements that connect residents with opportunities to increase their physical activity and improve their physical and mental health, especially in equity priority communities

<sup>48</sup> Bay Area Air Quality Management District, 2022, *Best Practices for Centering Environmental Justice, Health, and Equity*, <https://www.baaqmd.gov/~/media/files/planning-and-research/ceqa/ceqa-guidelines-2022/ceqa-guidelines-chapter-2-environmental-justicefinal-pdf.pdf?la=en>, accessed June 1, 2023.

<sup>49</sup> City of San Mateo, Diversity, Equity, & Inclusion, <https://www.cityofsanmateo.org/4422/Diversity-Equity-Inclusion>, accessed May 9, 2023.

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with higher risk of negative public health outcomes. Identify new funding sources for programs and public improvements, if needed.

- **Policy LU 8.5: Community Preservation.** Prevent displacement in equity priority communities by protecting tenants, helping homeowners remain in place, and funding affordable housing.
- **Policy LU 8.6: Safe and Sanitary Homes.** Encourage homes and neighborhoods that are free of environmental health hazards.
- **Policy LU 8.7: Access to Parks and Recreation.** Provide attractive, comfortable, and safe pedestrian and cyclist access to public parks and recreational facilities in and near equity priority communities.
- **Action LU 8.8: Streetscape and Safety Improvements.** Work with residents in equity priority communities to identify sidewalk, lighting, landscaping, and roadway improvements needed to improve routes to parks, schools, recreation facilities, and other destinations within the community. Prioritize investments to address health disparities in equity priority communities in the annual Capital Improvement Program.
- **Action LU 8.9: Equity Priority Community Mapping.** Regularly update the map identifying equity priority communities with data from CalEnviroScreen or other sources, including information from community members.
- **Action LU 8.12: Neighborhood Beautification.** Support and promote neighborhood clean-up and beautification initiatives in equity priority communities, including in partnership with neighborhood organizations.
- **Policy LU 8.13: Locally Grown Food.** Increase access to fresh food by allowing and encouraging local food production, micro agriculture, edible landscapes, rooftop gardens, community gardens, and urban farms, and by distributing information about community-supported agriculture programs that provide affordable access to fresh food.
- **Policy LU 8.14: Retail Food Sources.** Strive to ensure that all households in San Mateo, including those in equity priority communities, have access to retail sources of affordable healthy food, including organic options, such as full-service grocery stores, specialty food markets, farmers markets and/or community gardens, and convenience stores with fresh food options, by working to retain existing retail sources and attract new ones.
- **Action LU 8.15: Healthy Food Access.** Support the work of San Mateo County Health and other local partners to:
  - Continue and expand the ability to use the Electronic Benefit Transfer (EBT) program at farmers' markets and other sources of healthy food.
  - Implement programs to encourage markets and convenience stores to stock fresh produce and other healthy foods.
  - Encourage restaurants to enlist restaurants in the CalFresh Restaurant Meals Program, which allows people at a high risk of chronic hunger to use CalFresh benefits to buy prepared meals at participating restaurants.

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- Continue to provide and expand the subsidized senior lunch program at the San Mateo Senior Center and the Congregate Nutrition Program at the King Center Community Center.
- **Action LU 8.16: Urban Agriculture.** Develop City regulations that encourage urban agriculture, community gardens, and farm stands, as appropriate.

As shown above, the proposed project considers measures to reduce emissions and improve community health within Overburdened and AB 617 communities consistent with BAAQMD's environmental justice goals. Thus, the proposed project would be consistent with BAAQMD's environmental justice goals and the impact would be *less than significant*.

**Significance without Mitigation:** Less than significant.

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<b>AQ-2</b>	<b>Construction of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.</b>
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The proposed General Plan guides growth within the EIR Study Area by designating land uses in the proposed land use diagram and through implementation of its goals, policies, and actions. New development would increase air pollutant emissions in the EIR Study Area and contribute to the overall emissions inventory in the SFBAAB. A discussion of health effects associated with air pollutant emissions generated by operational activities is included in Section 4.2.1.1, *Air Pollutants of Concern*.

## Construction

The proposed project would not directly result in construction of any development or infrastructure; however, future development under the proposed project would result in short-term construction-related criteria pollutant emissions that have the potential to have an adverse effect on air quality. Short-term criteria pollutant emissions would occur during demolition, site preparation, grading, building construction, paving, and architectural coating activities associated with individual development projects. ROG and NO<sub>x</sub> emissions are primarily associated with gasoline and diesel equipment exhaust and the application of architectural coatings. Fugitive dust emissions (PM<sub>10</sub> and PM<sub>2.5</sub>) are primarily associated with site preparation and vary as a function of such parameters as soil silt content, soil moisture, wind speed, acreage of disturbance area, and VMT by construction vehicles on- and off-site. Typical construction equipment associated with development and redevelopment projects includes dozers, graders, excavators, loaders, and trucks.

As discussed in Chapter 4.6, *Geology and Soils*, of this Draft EIR, the city has outcrops of serpentinite rock, which when broken or crushed can release asbestos fibers. Asbestos is a term used for several types of naturally occurring fibrous materials that was classified as a known human carcinogen and

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inhalation of asbestos may result in the development of lung cancer or mesothelioma.<sup>50</sup> When serpentinite and ultrafamic rocks containing asbestos are broken or crushed, asbestos fibers may become airborne, causing potential air quality and human health hazards.<sup>51</sup> Subsequently, CARB has regulated the amount of asbestos in crushed serpentinite and ultrafamic rock in surfacing applications and has adopted a new rule requiring best practices dust control measures for activities that disturb rock and soil containing naturally occurring asbestos to address the health concerns associated with exposure to asbestos. The Air District has also adopted these Airborne Toxic Control Measures in their Naturally Occurring Asbestos Program to minimize the release of asbestos fibers during activities involving the handling of asbestos. Furthermore, the US EPA requires specific work practices to control the release of asbestos fibers relating to renovation/demolition activities.

Although the exact coverage, location, or duration of future construction projects is unknown at the time of preparation of this Draft EIR, future development activities would generally entail demolition, site preparation, grading, building construction, paving, and painting. Since the EIR Study Area is largely built out, many new projects in the EIR Study Area will likely require the demolition of existing structures to make room for newer ones. Fugitive dust emissions would typically be greatest during building demolition, site preparation, and grading activities due to the disturbance of soils and transport of material. NO<sub>x</sub> emissions would also result from the combustion of diesel fuels used to power off-road heavy-duty vehicles and equipment (e.g., backhoes, bulldozers, excavators). The types and quantities of equipment, as well as duration of construction activities, would be dependent on project-specific conditions. Larger developments would require more equipment over a longer timeframe than that required for redevelopment of a single, residential home.

BAAQMD does not recommend plan-level thresholds of significance for construction emissions; however, BAAQMD does maintain and recommend project-level thresholds of significance for construction emissions that future development projects facilitated by the proposed project would be subject to. In addition, BAAQMD's CEQA Air Quality Guidelines identify and recommend a series of "Basic" measures to control and reduce construction-related fugitive dust emissions. For all project, BAAQMD recommends implementation of eight Basic Construction Measures to reduce construction fugitive dust and determines a project's fugitive dust impacts during construction to be less than significant if the following Basic Construction Measures are incorporated into project construction:

- All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, unpaved access roads) shall be watered two times per day.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.

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<sup>50</sup> California Department of Conservation, Naturally-Occurring Asbestos in California. [https://www.conservation.ca.gov/cgs/minerals/hazardous\\_minerals/asbestos](https://www.conservation.ca.gov/cgs/minerals/hazardous_minerals/asbestos), accessed March 3, 2023.

<sup>51</sup> California Air Resources Board, Naturally Occurring Asbestos. <https://ww2.arb.ca.gov/our-work/programs/naturally-occurring-asbestos>, accessed March 3, 2023.

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- All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Unpaved roads providing access to the sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compacted layer of wood chips, mulch, or gravel.
- Prior to the commencement of construction activities, individual project proponents shall post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD phone number shall also be visible to ensure compliance with applicable regulations.

As previously discussed, a criterion identified by BAAQMD for determining plan-level significance with respect to criteria air pollutants and ozone precursors is determining project consistency with the current AQMP control measures, which are intended to ensure the region's achievement and maintenance of attainment of federal and State AAQS. As the SFBAAB is currently designated as a nonattainment area for PM, mitigation would be required to ensure that individual development projects facilitated by the proposed project would result in less-than-significant construction fugitive dust impacts. Therefore, this impact is considered to be *significant* without mitigation.

**Impact AQ-2:** Construction of development projects that could occur from implementation of the proposed project would generate emissions that would exceed the Bay Area Air Quality Management District's regional significance thresholds and cumulatively contribute to the nonattainment designations of the San Francisco Bay Area Air Basin.

**Mitigation Measure AQ-2:** Prior to discretionary approval by the City for development projects subject to CEQA (California Environmental Quality Act) review (i.e., nonexempt projects), future project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City for review and approval. The evaluation shall be prepared in conformance with Bay Area Air Quality Management District (BAAQMD) methodology for assessing air quality impacts identified in BAAQMD's *CEQA Air Quality Guidelines*. If construction-related criteria air pollutants are determined to have the potential to exceed the BAAQMD-adopted thresholds of significance, the City shall require feasible mitigation measures to reduce air quality emissions. Measures shall require implementation of the BAAQMD Best Management Practices for construction-related fugitive dust emissions, including:

- Water all exposed surfaces (e.g., parking areas, staging areas, soil piles, grading areas, and unpaved access roads) at least twice daily or as often as needed to control dust emissions.
- All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
- All visible mud or dirt trackout onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day.
- All vehicle speeds on unpaved roads shall be limited to 15 mph.

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- All roadways, driveways, sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seedling or soil binders are used.
- All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
- All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
- Unpaved roads providing access to sites located 100 feet or further from a paved road shall be treated with a 6- to 12-inch layer of compact layer of wood chips, mulch, or gravel.
- Prior to the commencement of construction activities, individual project proponents shall post a publicly visible sign with the telephone number and person to contact at the City regarding dust complaints. This person shall respond and take corrective action within 48 hours. The BAAQMD phone number shall also be visible to ensure compliance with applicable regulations.

Measures shall be incorporated into appropriate construction documents (e.g., construction management plans) and shall be verified by the City.

**Significance with Mitigation:** Significant and unavoidable. Mitigation Measure AQ-2 contains BAAQMD's "Basic Construction Mitigation Measures Recommended for All Proposed Projects" in the bullet points listed above and contained in BAAQMD's 2023 CEQA Air Quality Guidelines, which are recommended by BAAQMD to ensure construction fugitive dust emissions are less than significant. As such, fugitive dust emissions would be reduced with implementation of Mitigation Measure AQ-2. While Mitigation Measure AQ-2 has the potential to reduce construction exhaust emissions, potential future development projects under the proposed project (individually or cumulatively) could still exceed the BAAQMD significance thresholds for construction. Therefore, implementation of the proposed project could result in significant construction-related regional air impacts from construction equipment exhaust. However, this finding would not preclude a finding of less than significant at the project level.

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<b>AQ-3</b>	<b>Operation of the proposed project would result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or State ambient air quality standard.</b>
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### Operation (Long-term Emissions)

Operational (long-term) activities associated with potential future development under the proposed project could generate a substantial increase in long-term criteria air pollutant emissions from existing conditions that could exceed BAAQMD's regional significance thresholds and cumulatively contribute to the nonattainment designations of the SFBAAB.

Implementation of the proposed project would result in direct and indirect criteria air pollutant emissions from transportation, energy (e.g., natural gas use), and area sources (e.g., aerosols and landscaping equipment). Mobile-source criteria air pollutant emissions are based on the traffic analysis

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conducted by Kittelson and Associates for this EIR. The emissions forecast for the EIR Study Area under the proposed project compared to existing conditions (with 2040 emissions rates) is shown in Table 4.2-10, *Proposed Project Criteria Air Pollutant Emissions Forecast (Scenario 1, Comparison to Existing Conditions)*. This is “Scenario 1” as required by BAAQMD and explained under the “BAAQMD Significance Criteria” subheading in Section 4.2.2, *Standards of Significance*.

As shown in Table 4.2-10, implementation of the proposed project would result in an increase in criteria air pollutant emissions from existing conditions. This increase is based on the difference between existing land uses and land uses associated with development allowed under the proposed project, as well as an estimate of population and employment in the EIR Study Area in the 2040 horizon year. Therefore, development associated with the proposed project would generate operational (long-term) air pollutant emissions that exceed BAAQMD’s regional significance thresholds for VOC and NO<sub>x</sub> in 2040. Emissions of VOC and NO<sub>x</sub> that exceed the BAAQMD regional threshold would cumulatively contribute to the O<sub>3</sub> nonattainment designation of the SFBAAB. Emissions of NO<sub>x</sub> that exceed BAAQMD’s regional significance thresholds would cumulatively contribute to the O<sub>3</sub> and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) nonattainment designations of the SFBAAB.

**Table 4.2-10 Proposed Project Criteria Air Pollutant Emissions Forecast (Scenario 1, Comparison to Existing Conditions)**

Year	Criteria Air Pollutants (Tons/Year)			
	VOC	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Existing Land Uses – Year 2040</b>				
On-Road Transportation	12	61	32	11
Energy	6	120	9	9
Off-road Equipment	71	45	2	1
Consumer Products	310	—	—	—
<b>Total Existing Land Uses (tons/year)</b>	<b>400</b>	<b>226</b>	<b>42</b>	<b>21</b>
<b>Proposed Land Use Plan – Year 2040 Total Buildout</b>				
On-Road Transportation	16	80	41	14
Energy	9	168	13	13
Off-road Equipment	100	57	2	2
Consumer Products	515	—	—	—
<b>Proposed Land Uses Total (tons/year)</b>	<b>640</b>	<b>305</b>	<b>56</b>	<b>28</b>
<b>Change in Emissions from Existing Land Uses (Year 2040)</b>				
On-Road Transportation	4	19	10	3
Energy	3	49	4	4
Off-road Equipment	29	12	1	0
Consumer Products	205	—	—	—
<b>Net Change from Existing Land Uses (Year 2040)</b>	<b>240</b>	<b>79</b>	<b>14</b>	<b>7</b>
BAAQMD Threshold (Tons/Year)	10	10	15	10
<b>Exceeds BAAQMD Threshold?</b>	<b>Yes</b>	<b>Yes</b>	No	No

Note: Numbers may not sum due to rounding.

Source: PlaceWorks, 2023. See Appendix C, *Air Quality and Greenhouse Gas Emissions Data*, of this Draft EIR.

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As shown in Table 4.2-11, *Net Change in Regional Criteria Air Pollutant Emissions Forecast (Scenario 2, Comparison to Future No Project Conditions)*, compared to existing baseline year conditions, emissions of NO<sub>x</sub> are projected to decrease from current levels despite growth associated with the proposed project. However, operational (long-term) emissions would remain above the BAAQMD significance thresholds due to the increase in VOCs from household consumer products used in residential development associated with the proposed project. This is “Scenario 2” as required by BAAQMD and explained under the “BAAQMD Significance Criteria” subheading in Section 4.2.2, *Standards of Significance*.

**Table 4.2-11 Net Change in Regional Criteria Air Pollutant Emissions Forecast (Scenario 2, Comparison to Future No Project Conditions)**

Year	Criteria Air Pollutants (Tons/Year)			
	VOC	NO <sub>x</sub>	PM <sub>10</sub>	PM <sub>2.5</sub>
<b>Existing Land Uses – Existing Baseline</b>				
On-Road Transportation	45	337	35	15
Energy	6	120	9	9
Off-road Equipment	71	45	2	1
Consumer Products	310	—	—	—
<b>Existing Baseline Land Uses Total</b>	<b>433</b>	<b>501</b>	<b>46</b>	<b>25</b>
<b>Proposed Land Use Plan – Year 2040 Total Buildout</b>				
On-Road Transportation	16	80	41	14
Energy	9	168	13	13
Off-road Equipment	100	57	2	2
Consumer Products	515	—	—	—
<b>Proposed Land Uses Total</b>	<b>640</b>	<b>305</b>	<b>56</b>	<b>28</b>
<b>Change in Emissions from Existing Baseline</b>				
On-Road Transportation	-29	-257	6	-1
Energy	3	49	4	4
Off-road Equipment	29	12	1	<1
Consumer Products	205	—	—	—
<b>Net Change from Existing Baseline</b>	<b>207</b>	<b>-196</b>	<b>10</b>	<b>3</b>
BAAQMD Threshold (Tons/Year)	10	10	15	10
<b>Exceeds BAAQMD Threshold?</b>	<b>Yes</b>	<b>No</b>	<b>No</b>	<b>No</b>

Note: Numbers may not add up due to rounding.

Source: PlaceWorks, 2022. See Appendix C, *Air Quality and Greenhouse Gas Emissions Data*, of this Draft EIR.

Compared to existing baseline year conditions, emissions of NO<sub>x</sub> are projected to decrease from current levels despite growth associated with the proposed project. However, operational (long-term) emissions would remain above the BAAQMD significance thresholds due to the increase in VOCs from consumer products used in residential development associated with the proposed project. Although compliance with applicable proposed General Plan goals, policies, and actions would contribute towards minimizing

long-term emissions, implementation of the proposed project would still exceed the BAAQMD significance thresholds for operation. Therefore, implementation of the proposed project could result in *significant* long-term regional air quality impacts.

#### *Consistency with AQMP Control Measures*

As previously mentioned, BAAQMD's plan-level guidance does not require an emissions inventory of criteria air pollutants for plan-level analysis; however, BAAQMD recommends that one method used for determining plan-level impact significance is to analyze the proposed plan's consistency with the current AQMP control measures. As discussed in Table 4.2-7, the proposed project would be consistent with the applicable 2017 Clean Air Plan control measures. As such, the proposed project would be consistent with the current AQMP control measures, and this impact would be *less than significant*.

#### *Proposed Plan VMT and Population Growth*

As previously mentioned, BAAQMD's plan-level guidance does not require an emissions inventory of criteria air pollutants for plan-level analysis; however, BAAQMD recommends that the second method for determining plan-level impact significance is to analyze the proposed plan's projected VMT growth versus its projected population growth from existing conditions through its planning horizon year (2040). If a proposed plan's projected VMT growth outpaces its projected population growth, then that proposed plan would result in a cumulatively considerable net increase in criteria pollutants, and this impact would be potentially significant. As discussed in impact discussion AQ-1, the daily VMT growth facilitated by the proposed project would constitute an approximately 30.4 percent growth through 2040 while population growth facilitated by the proposed project would constitute an approximately 48.2 percent growth through 2040. Therefore, the forecasted VMT growth would not outpace the forecasted population growth facilitated by the proposed project. As such, this impact would be *less than significant*.

While growth within the EIR Study Area would cumulatively contribute to operational (long-term) regional criteria air pollutant emissions impacts, the Circulation (C) Element of the proposed General Plan includes goals, policies, and actions that require local planning and development decisions to consider impacts from emissions and to reduce those emissions. In addition to the proposed General Plan goal, policies, and actions listed under the subheading "Impacts of the Environment on a Project" above, the following General Plan 2040 goals, policies, and actions would serve to minimize potential adverse impacts related to operational phase (long-term) regional criteria air pollutant emissions:

- **Goal C-1:** Design and implement a multimodal transportation system that prioritizes walking, bicycling, and transit, and is sustainable, safe, and accessible for all users; connects the community using all modes of transportation; and reduces vehicle miles traveled (VMT) per capita.
  - **Policy C 1.1: Sustainable Transportation.** Reduce greenhouse gas (GHG) emissions from transportation by increasing mode share options for sustainable travel modes, such as walking, bicycling, and public transit.
  - **Policy C 1.2: Complete Streets.** Apply complete streets design standards to future projects in the public right-of-way and on private property. Complete streets are streets designed to facilitate safe, comfortable, and efficient travel for all users regardless of age or ability or whether they

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are walking, bicycling, taking transit, or driving, and should include landscaping and shade trees as well as green streets stormwater infrastructure to reduce runoff and pollution.

- **Policy C 1.6: Transit-Oriented Development.** Increase access to transit and sustainable transportation options by encouraging high-density, mixed-use transit-oriented development near the City's Caltrain stations and transit corridors.
- **Action C 1.14: Transit-Oriented Development Pedestrian Access Plan.** Coordinate with interagency partners and community stakeholders to seek funding opportunities to design, construct, and build the priority projects identified in the Transit-Oriented Development Pedestrian Access Plan.
- **Goal C-2:** Use transportation demand management (TDM) to reduce the number and length of single-occupancy vehicle trips through policy, zoning strategies, and targeted programs and incentives.
  - **Policy C 2.1: TDM Requirements.** Require new or existing developments that meet specific size, capacity, and/or context conditions to implement TDM strategies.
  - **Action C 2.2: Implement TDM Ordinance.** Develop and implement a citywide TDM ordinance for new developments with tiered trip reduction and VMT reduction targets and monitoring that are consistent with the targets in their relevant area plans. Reduce parking requirements for projects that include TDM measures.
  - **Action C 2.5: Facilitate TDM Services.** Facilitate the provision of TDM services to employees and residents through development agreements, Transportation Management Associations, and coordination with regional partners.
  - **Action C 2.6: Travel to Schools.** Reduce school-related VMT and support student health by collaborating with private and public partners to increase the number of students walking or bicycling to school through expanded implementation of Safe Routes to School, including educating students and the community about the benefits of walking and bicycling and making physical improvements to streets and neighborhoods that make walking and bicycling safer. Prioritize school travel safety improvements in equity priority communities.
  - **Action C 2.7: New Development Shuttle Services.** Encourage new developments to provide shuttle services as an option to fulfill TDM requirements. Shuttles should serve activity centers, such as the College of San Mateo, Caltrain stations, downtown, the Hillsdale Shopping Center, or other areas and should accommodate the needs and schedules of all riders, including service workers.

While BAAQMD rules and the proposed General Plan goals, policies, and actions listed above may reduce operation-related (long-term) regional air quality impacts of individual projects accommodated under the proposed project to less than significant, due to the magnitude of development allowed, the projected cumulative emissions associated with future development projects would exceed the threshold. Therefore, implementation of the proposed project would significantly contribute to the nonattainment designations of the SFBAAB, resulting in a *significant* impact.

**Impact AQ-3:** Operation of development projects under the proposed project would generate operational emissions that would exceed the Bay Area Air Quality Management District's regional significance thresholds for volatile organic compounds (VOC) and nitrogen oxides (NO<sub>x</sub>).

**Mitigation Measure AQ-3:** Prior to discretionary approval by the City for development projects subject to California Environmental Quality Act (CE) review (i.e., nonexempt projects), future project applicants shall prepare and submit a technical assessment evaluating potential project operational air quality impacts to the City for review and approval. The evaluation shall be prepared in conformance with Bay Area Air Quality Management District (BAAQMD) methodology in assessing air quality impacts identified in BAAQMD's current *CEQA Air Quality Guidelines* at the time that the project is considered.

If operation-related air pollutants are determined to have the potential to exceed the BAAQMD-adopted thresholds of significance, the City shall require the project applicant(s) to incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the conditions of approval or a mitigation monitoring and reporting plan adopted for the project as part of the project CEQA review. Possible mitigation measures to reduce long-term emissions could include, but are not limited to the following:

- Implementing commute trip reduction programs.
- Unbundling residential parking costs from property costs.
- Expanding bikeway networks.
- Expanding transit network coverage or hours.
- Using cleaner-fueled vehicles.
- Exceeding the current Title 24 Building Envelope Energy Efficiency Standards.
- Establishing on-site renewable energy generation systems.
- Requiring all-electric buildings.
- Replacing gas-powered landscaping equipment with zero-emission alternatives.
- Implementing organics diversion programs.
- Expanding urban tree planting.

**Significance with Mitigation:** Significant and unavoidable. Buildout in accordance with the proposed project would generate long-term emissions that would exceed BAAQMD's regional significance thresholds and cumulatively contribute to the nonattainment designations of the SFBAAB. Mitigation Measure AQ-3, in addition to the proposed General Plan goals, policies, and actions, would reduce air pollutant emissions to the extent practicable. The proposed General Plan goals, policies, and actions covering topics such as expansion of the pedestrian and bicycle networks, promotion of public and active transit, and support to increase building energy efficiency and energy conservation would also reduce criteria air pollutants within the EIR Study Area.

This EIR quantifies the increase in criteria air pollutants emissions in the EIR Study Area. However, at the programmatic level, it is not feasible to quantify the increase in TACs from stationary sources associated with the proposed project or meaningfully correlate how regional criteria air pollutant emissions above BAAQMD's significance thresholds correlate with basin wide health impacts.

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To determine cancer and noncancer health risk, the location, velocity of emissions, meteorology and topography of the area, and locations of receptors are equally important as model parameters as the quantity of TAC emissions. The white paper prepared by the Association of Environmental Professionals' Climate Change Committee, *We Can Model Regional Emissions, But Are the Results Meaningful for CEQA*, describes several of the challenges of quantifying local effects—particularly health risks—for large-scale, regional projects, and these are applicable to both criteria air pollutants and TACs. Similarly, the two amicus briefs filed by the air districts on the Friant Ranch case describe two positions regarding CEQA requirements, modeling feasibility, variables, and reliability of results for determining specific health risks associated with criteria air pollutants. The discussions also include the distinction between criteria air pollutant emissions and TACs with respect to health risks. The following summarizes major points about the infeasibility of assessing health risks of criteria air pollutant emissions and TACs associated with implementation of a general plan. The white paper and amicus briefs are provided in Appendix C, *Air Quality and Greenhouse Gas Emissions Data*, of this Draft EIR.

To achieve and maintain air quality standards, BAAQMD has established numerical emission indicators of significance for regional and localized air quality impacts for both construction and operational phases of a local plan or project. The numerical emission indicators are based on the recognition that the air basin is a distinct geographic area with a critical air pollution problem for which ambient air quality standards have been promulgated to protect public health. The thresholds represent the maximum emissions from a plan or project that are expected not to cause or contribute to an exceedance of the most stringent applicable national or state ambient air quality standard. By analyzing the plan's emissions against the thresholds, an EIR assesses whether these emissions directly contribute to any regional or local exceedances of the applicable ambient air quality standards and exposure levels.

BAAQMD currently does not have methodologies that would provide the City with a consistent, reliable, and meaningful analysis to correlate specific health impacts that may result from a proposed project's mass emissions. For criteria air pollutants, exceedance of the regional significance thresholds cannot be used to correlate a project to quantifiable health impacts unless emissions are sufficiently high to use a regional model. BAAQMD has not provided the methodology to assess the specific correlation between mass emissions generated and their effect on health (note Appendix C, *Air Quality and Greenhouse Gas Emissions Data*, of this Draft EIR provides the San Joaquin Valley Air Pollution Control District's amicus brief, and South Coast Air Quality Management District's amicus brief).

Ozone concentrations depend on a variety of complex factors, including the presence of sunlight and precursor pollutants, natural topography, nearby structures that cause building downwash, atmospheric stability, and wind patterns. Secondary formation of particulate matter and ozone can occur far from sources as a result of regional transport due to wind and topography (e.g., low-level jet stream). Photochemical modeling depends on all emission sources in the entire domain (i.e., modeling grid). Low resolution and spatial averaging produce "noise" and modeling errors that usually exceed individual source contributions. Because of the complexities of predicting ground-level ozone concentrations in relation to the National AAQS and California AAQS, it is not possible to link health risks to the magnitude of emissions exceeding the significance thresholds.

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Current models used in CEQA air quality analyses are designed to estimate potential project construction and operation emissions for defined projects. The estimated emissions are compared to significance thresholds, which are keyed to reducing emissions to levels that will not interfere with the region's ability to attain the health-based standards. This serves to protect public health in the overall region, but there is currently no CEQA methodology to determine the impact of emissions (e.g., pounds per day) on future concentration levels (e.g., parts per million or micrograms per cubic meter) in specific geographic areas. CEQA thresholds, therefore, are not specifically tied to potential health outcomes in the region.

The EIR must provide an analysis that is understandable for decision making and public disclosure. Regional-scale modeling may provide a technical method for this type of analysis, but it does not necessarily provide a meaningful way to connect the magnitude of a project's criteria pollutant emissions to health effects without speculation. Additionally, this type of analysis is not feasible at a general plan level because the location of emissions sources and quantity of emissions are not known. However, because cumulative development within the EIR Study Area would exceed the regional significance thresholds, this EIR finds that the proposed project could contribute to an increase in health effects in the basin until the attainment standards are met in the SFBAAB.

In summary, as described above, implementation of the proposed project would generate emissions that would exceed BAAQMD's regional significance thresholds for VOC and NO<sub>x</sub>. The proposed General Plan includes goals, policies, and actions to reduce these long-term regional criteria air pollutant emissions. In addition, Mitigation Measure AQ-3 requires potential future development in San Mateo that is subject to CEQA (i.e., is a discretionary project) to prepare and submit a technical assessment evaluating potential project operational air quality impacts to the City of San Mateo for review and approval prior to project approval by the City. Where the technical assessment determines the BAAQMD -adopted thresholds are exceeded, the applicants for new development projects would be required to incorporate mitigation measures to reduce air pollutant emissions during operational activities. Due to the programmatic nature of this EIR, the impact is found to be significant and unavoidable. The identification of this program-level impact does not preclude the finding of less-than-significant impacts for subsequent individual projects that meet applicable thresholds of significance. Due to the programmatic nature of the proposed project, no additional mitigating measures are available, and the impact is considered *significant and unavoidable*.

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### **AQ-4                      The proposed project would expose sensitive receptors to substantial pollutant concentrations.**

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Implementation of the proposed project could facilitate individual development projects that cause or contribute significantly to elevated pollutant concentration levels such that it would expose sensitive receptors to elevated pollutant concentrations. Unlike regional emissions, localized emissions are typically evaluated in terms of air concentration rather than mass so they can be more readily correlated to potential health effects. Types of land uses that typically generate substantial quantities of TACs and PM<sub>2.5</sub> include industrial and manufacturing (stationary sources), warehousing land uses that have the potential to generate DPM from onsite equipment, and mobile sources (trucks). While these types of land uses are not prevalent in the EIR Study Area, nor are they anticipated to be introduced as part of

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the planned land uses envisioned in the proposed General Plan, commercial and retail uses that generate small and medium sized truck trips for deliveries could similarly generate localized substantial concentrations of TACs and PM<sub>2.5</sub>. Additionally, operation of new land uses consistent with the proposed project could generate new sources of criteria air pollutants and TACs in the EIR Study Area associated with CO hotspots. The following describes potential localized operational air quality impacts from implementation of the proposed project.

### Operational – CO Hotspots

Areas of vehicle congestion have the potential to create pockets of CO, called hotspots. These pockets have the potential to exceed the State 1-hour standard of 20 ppm or the 8-hour standard of 9.0 ppm. Since CO is produced in the greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to AAQS is typically demonstrated through an analysis of localized CO concentrations. Hotspots are typically produced at intersections, where traffic congestion is highest because vehicles queue for longer periods and are subject to reduced speeds.

An overarching goal of the Plan Bay Area 2050 is to concentrate development in areas where there are existing services and infrastructure rather than allocate new growth in outlying areas where substantial transportation investments would be necessary to achieve the per capita passenger vehicle VMT and associated GHG emissions reductions. As described in impact discussion GHG-2 in Chapter 4.7, *Greenhouse Gas Emissions*, of this Draft EIR, the proposed project would be consistent with the overall goals of the Plan Bay Area 2050. Additionally, the proposed project would not hinder the capital improvements outlined in C/CAG's CMP. Thus, the proposed project would not conflict with the CMP.

Furthermore, under existing and future vehicle emission rates, a project would have to increase traffic volumes at a single intersection to more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—in order to generate a significant CO impact.<sup>52</sup> Implementation of the proposed project would result in hourly traffic increases at intersections across the EIR Study Area largely due to an increase in population and employment through 2040. According to traffic volume data provided by Kittelson and Associates, the intersection that would experience the greatest traffic volumes in 2040 would be El Camino Real at 17<sup>th</sup> Avenue, with an estimated 59,635 average daily trips (ADT). As an industry standard, the ADT are divided by 10 to identify the estimated peak hour traffic volumes at this intersection. Based on adjusting the ADT to identify the peak hour volumes, the intersection of El Camino Real at 17<sup>th</sup> Avenue would experience an estimated 5,963 peak hour vehicle trips. As such, the intersection that would experience the greatest peak hour trips in 2040 would be below BAAQMD's significance criteria of 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited—and the proposed project would not be considered to generate a CO hotspot.

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<sup>52</sup> Bay Area Air Quality Management District (BAAQMD), April 2023, *California Environmental Quality Act: Air Quality Guidelines*, <https://www.baaqmd.gov/plans-and-climate/california-environmental-quality-act-ceqa/updated-ceqa-guidelines>, accessed May 8, 2023.

Furthermore, as described in Chapter 4.15, *Transportation*, of this Draft EIR, the proposed General Plan includes land use designations, goals, policies, and actions that will help reduce VMT and therefore reduce emissions from automobiles. Please see the impact discussion in Chapter 4.15 for a complete list of these goals, policies, and actions. Therefore, overall, the proposed project would not have the potential to substantially increase CO hotspots at intersections in the EIR Study Area and vicinity. Overall, these components of the proposed project would contribute to reducing congestion and associated emissions. Localized air quality impacts related to mobile-source emissions would therefore be *less than significant*.

## Operational Community Risk and Hazards

Common sources of TAC emissions are stationary sources (e.g., dry cleaners, diesel backup generators, and gasoline stations), which are subject to the BAAQMD permit requirements. Future development and activities under the proposed project could result in new sources of TACs and PM<sub>2.5</sub>. Stationary sources, including smaller stationary sources associated with residential development (e.g., emergency generators and boilers), are subject to review by BAAQMD as part of the permitting process. Adherence to the BAAQMD permitting regulations would ensure that new stationary sources of TACs do not expose populations to significant health risk. Mobile sources of air toxics (e.g., truck idling) are not regulated directly by BAAQMD. However, residential development associated with the proposed project would not generate substantial truck traffic or idling. Permitted stationary sources and nonpermitted sources are discussed in greater detail below.

### *Stationary (Permitted) Sources*

Various industrial and commercial processes (e.g., manufacturing, dry cleaning) allowed under the proposed project would be expected to release TACs. TAC emissions generated by stationary and point sources of emissions within the SFBAAB are regulated and controlled by BAAQMD. Land uses that would require a permit from BAAQMD for emissions of TACs include chemical processing facilities, chrome-plating facilities, dry cleaners, and gasoline-dispensing facilities. Emissions of TACs from stationary sources would be controlled by BAAQMD through permitting and would be subject to further study and health risk assessment prior to the issuance of any necessary air quality permits under Regulation 2, New Source Review, as well as Regulation 11, Rule 18, *Reduction of Risk from Air Toxic Emissions at Existing Facilities*.

Review under New Source Review ensures that stationary source emissions (permitted sources) would be reduced or mitigated below the BAAQMD community risk and hazards thresholds. Though these sources would incrementally contribute to emissions in the EIR Study Area individually, they would be mitigated to the BAAQMD standards.

The proposed General Plan goal, policies, and actions listed under the subheading “Impacts of the Environment on a Project” above would serve to minimize potential adverse impacts on air quality by requiring new development to follow standards to reduce health risks from stationary sources.

Though the proposed General Plan includes a goal, policies, and actions to reduce exposure of sensitive receptors to pollution, and BAAQMD would ensure that on a project-by-project basis emission achieve

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their permit thresholds, emissions cannot be determined or modeled until specific development projects are proposed. Therefore, implementation of the proposed project may result in projects that emit TACs and PM<sub>2.5</sub> throughout the EIR Study Area and result in potentially *significant* localized air quality impacts.

### *Nonpermitted Sources*

TACs and PM<sub>2.5</sub> from mobile sources when operating at a property (e.g., truck idling) are regulated by statewide rules and regulations, not by BAAQMD, and have the potential to generate substantial concentrations of air pollutants. The primary mobile source of TACs within the EIR Study Area includes truck idling and use of off-road equipment.

While the land use pattern envisioned by the proposed General Plan does not involve a substantial increase in industrial or trucking facilities, new warehousing operations present the potential to generate substantial DPM and PM<sub>2.5</sub> emissions from off-road cargo-handling equipment use and truck idling. In addition, some warehousing and industrial facilities may include use of transport refrigeration units (TRUs) for cold storage. New land uses in the EIR Study Area that would be permitted under the proposed project that use trucks and TRUs could generate an increase in DPM that would contribute to cancer and noncancer health risk in the SFBAAB. Additionally, these types of facilities could also generate particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>) that may cause an exceedance or contribute to the continuing exceedance of the federal and State AAQS. These new land uses could be near existing sensitive receptors. In addition, trucks would travel on regional transportation routes through the Bay Area, contributing to near-roadway DPM concentrations.

The proposed project would not result in an increase in Industrial land use and currently the industrial land use makes up less than 1 percent of the City Limits (0.8 percent). The majority of new development within the EIR Study Area is expected to be primarily concentrated around the three Caltrain stations (in the Downtown, Hayward Park, and Hillsdale Areas) and along El Camino Real. Until specific future development projects are proposed, the associated emissions and concentrations cannot be determined or modeled.

Proposed General Plan Policies COS 4.2, COS 4.3, COS 4.4, COS 4.6, COS 4.7, and COS 4.8 listed under the subheading “Impacts of the Environment on a Project” above would require the individual project applicants to prepare project-specific analysis of qualifying project and incorporate project-specific mitigation measures to reduce toxic air contaminants. If the results of a project-specific analysis show that the incremental cancer risk exceeds ten in one million (or the risk thresholds in effect at the time a project is considered) or six in one million in Equity Priority Communities, or the appropriate noncancer hazard index exceeds 1.0, or 0.3 µ/m<sup>3</sup> of PM<sub>2.5</sub>; or the thresholds as determined by BAAQMD at the time a project is considered, the applicant is required to mitigate the potential cancer and noncancer risks to an acceptable level.

Proposed General Plan Policies COS 4.4 and COS 4.8 would also reduce the exposure of sensitive receptors specifically in Equity Priority Communities and Overburdened Communities to TACs and PM<sub>2.5</sub>. These policies aim to limit truck idling within the EIR Study Area and overall support the BAAQMD rules to reduce emissions from mobile sources. The policies also include collaboration efforts with BAAQMD and the City to reevaluate permit processes, outline objectives and strategies for monitoring air

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pollution, and monitor key health indicators to measure the success of the outcome of the proposed General Plan policies and implementation actions.

Though the proposed General Plan includes policies to reduce air pollutant emissions exposure within Impacted Communities, the proposed project could result in specific development projects that could emit TACs and PM<sub>2.5</sub>. The emissions associated with these facilities cannot be determined or modeled until specific development projects are proposed. Thus, implementation of the proposed project may result in projects that emit TACs and PM<sub>2.5</sub> in the vicinity of Equity Priority Communities and result in potentially significant localized air quality impacts. Therefore, without project-specific analysis health risk impacts from nonpermitted sources associated with development of industrial and commercial land uses are considered to be *significant*.

**Impact AQ-4:** Construction emissions associated with development under the proposed project could expose air quality-sensitive receptors to substantial toxic air contaminant concentrations and exceed the Bay Area Air Quality Management District's project-level and cumulative significance thresholds.

**Mitigation Measure AQ-4:** Prior to discretionary approval by the City, project applicants for new industrial or warehousing development projects that 1) have the potential to generate 100 or more diesel truck trips per day or have 40 or more trucks with operating diesel-powered transport refrigeration units, and 2) are within 1,000 feet of a sensitive land use (e.g., residential, schools, hospitals, nursing homes) or Overburdened Community, as measured from the property line of the project to the property line of the nearest sensitive use, shall submit a health risk assessment (HRA) to the City for review and approval. The HRA shall be prepared in accordance with policies and procedures of the state Office of Environmental Health Hazard Assessment and the Bay Area Air Quality Management District (BAAQMD). If the HRA shows that the cumulative and project-level incremental cancer risk, noncancer hazard index, and/or PM<sub>2.5</sub> exceeds the respective threshold, as established by BAAQMD (all areas of the City and Sphere of Influence) and project-level risk of 6.0 in Equity Priority Communities at the time a project is considered, the project applicant will be required to identify best available control technologies for toxics (T-BACTs) and appropriate enforcement mechanisms, and demonstrate that they are capable of reducing potential cancer, noncancer risks, and PM<sub>2.5</sub> to an acceptable level. T-BACTs may include but are not limited to:

- Restricting idling on-site beyond Air Toxic Control Measures idling restrictions
- Electrifying warehousing docks
- Requiring use of newer equipment
- Requiring near-zero or zero-emission trucks for a portion of the vehicle fleet based on opening year.
- Truck Electric Vehicle (EV) Capable trailer spaces.
- Restricting off-site truck travel through the creation of truck routes.

T-BACTs identified in the HRA shall be included as part of the conditions of approval or a mitigation monitoring and reporting plan adopted for the project as part of the project CEQA review.

**Significance with Mitigation:** Significant and unavoidable. Development allowed by the proposed project could result in new sources of TACs or PM<sub>2.5</sub> near existing or planned sensitive receptors. Review of development projects by BAAQMD for permitted sources of air toxics (e.g., industrial

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facilities, dry cleaners, and gas stations) in addition to proposed General Plan goals, policies, and actions would ensure that health risks are minimized. Individual development projects would be required to achieve the incremental risk thresholds established by BAAQMD, and TAC and PM<sub>2.5</sub> project-level impacts would be less than significant. However, these projects could contribute to significant cumulative risk in the Bay Area that could affect sensitive populations and Equity Priority Communities. As a result, the proposed project's contribution to cumulative health risk is considered significant and unavoidable.

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<b>AQ-5</b>	<b>The proposed project would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.</b>
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### Construction

While odors could be generated during future construction activities associated with development and activities under the proposed project, the proposed project would not directly result in construction of any development project. Identification of potential impacts to odor receptors resulting from construction-generated odors, such as equipment exhaust, would require project-specific information for future individual land use development projects that is not currently known. Nonetheless, odors are regulated under BAAQMD Regulation 1, Rule 1-301, *Public Nuisance*. Compliance with BAAQMD Regulation 1 would ensure that odor impacts associated with the proposed project are minimized. As previously discussed, consistent with BAAQMD's CEQA Air Quality Guidelines, a plan-level analysis must acknowledge odor sources within the Planning Area and identify policies, goals, and objectives aimed at reducing potential odor impacts to ensure that potential impacts would be *less than significant*.

### Operation

According to BAAQMD's 2022 CEQA Air Quality Guidelines, land uses associated with odor complaints typically include agricultural operations, wastewater treatment plants, landfills, and certain industrial operations such as chemical and other manufacturing. While odors do not themselves present a health risk, they are often considered a nuisance by people who live, work, or otherwise are located near outdoor odor sources. Buildout permitted under the proposed project would not include odor-generating uses, such as composting, greenwaste, and recycling operations; food processing; and painting/coating operations, because these are types of uses are often found in the commercial and/or industrial areas. Increase in residential uses would not generate substantial odors that would affect a substantial number of people. During operation, residences could generate odors from cooking. However, odors from cooking are not substantial enough to be considered nuisance odors that would affect a substantial number of people.

The Conservation, Open Space, Parks, and Recreation (COS) Element of the proposed General Plan provides guidance for the development, management, and preservation of San Mateo's natural, recreational, and cultural resources, including air quality. Specifically, proposed General Plan Policies COS 4.8, COS 4.12, and COS 4.14 listed under the subheading "Impacts of the Environment on a Project" above would serve to minimize impacts related to potential adverse impacts related to odors. Therefore, compliance with proposed General Plan policies, as well applicable BAAQMD rules and regulations,

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would prevent odor emissions from adversely affecting a substantial number of people in the EIR Study Area.

Furthermore, nuisance odors are regulated under BAAQMD Regulation 7, *Odorous Substances*, which requires abatement of any nuisance generating an odor complaint. In addition, odors are also regulated under BAAQMD Regulation 1, Rule 1-301, *Public Nuisance*. Compliance with BAAQMD Regulation 7 and 1 would ensure that odor impacts associated with the proposed project are minimized. This impact would be *less than significant*.

**Significance without Mitigation:** Less than significant.

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**AQ-6**                      **The proposed project would, in combination with past, present, and reasonably foreseeable projects, result in cumulative air quality impacts in the area.**

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### Criteria Air Pollutants

The cumulative area of analysis is the SFBAAB. As identified in Section 4.2.1, *Environmental Setting*, California is divided into air basins for the purpose of managing the air resources of the state on a regional basis based on meteorological and geographic conditions. Similar to GHG emissions impacts, air quality impacts are regional in nature as no single project generates enough emissions that would cause an air basin to be designated as a nonattainment area. Criteria air pollutant emissions generated by cumulative development associated with buildout of the proposed project would exceed BAAQMD's project-level significance thresholds during construction and operation and would contribute to the nonattainment designations of the SFBAAB.

The SFBAAB is currently designated a nonattainment area for O<sub>3</sub> and particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>). Therefore, in combination with past, present, and reasonably foreseeable projects elsewhere within the SFBAAB, the proposed project, even with implementation of applicable regulations and Mitigation Measures AQ-2, AQ-3, AQ-4, would result in a *significant* cumulative impact with respect to air quality.

### Toxic Air Contaminants

Buildout of the proposed project would generate new sources of TAC near existing or planned sensitive receptors. Review of development projects by BAAQMD for permitted sources of air toxics (e.g., industrial facilities, dry cleaners, and gasoline dispensing facilities) would ensure that health risks are minimized. Mitigation Measure AQ-4 would ensure mobile sources of TACs not covered by BAAQMD permits are considered during subsequent project-level environmental review by the City of San Mateo. Individual development projects would be required to achieve the incremental risk thresholds established by BAAQMD, and TACs would be less than significant. However, implementation of the proposed project would generate TACs that could contribute to elevated levels in the SFBAAB. While individual projects would achieve the project-level risk threshold of 10 per million, they would nonetheless contribute to the higher levels of cancer risk in the SFBAAB, and therefore result in a

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cumulatively considerable impact. Therefore, the cumulative contribution to health risk resulting from implementation of the proposed project is *significant*.

**Impact AQ-6:** Implementation of the proposed project would generate a substantial increase in emissions that exceeds the Bay Area Air Quality Management District's significance thresholds and would cumulatively contribute to the nonattainment designations and health risk in the San Francisco Bay Area Air Basin.

**Mitigation Measure AQ-6:** Implement Mitigation Measures AQ-2, AQ-3, and AQ-4.

**Significance with Mitigation:** Significant and unavoidable. Criteria air pollutant emissions generated by land uses within the proposed project could exceed the BAAQMD regional thresholds (see Impacts AQ-2 and AQ-3). Air quality impacts identified in the discussion under Impacts AQ-1, AQ-2, and AQ-3, constitute the proposed project's contribution to cumulative air quality impacts in the SFBAAB. Mitigation Measures AQ-2, AQ-3, and AQ-4 would help reduce project-related emissions to the extent feasible. However, due to the programmatic nature of the proposed project, no additional mitigation measures are available. Air pollutant emissions associated with the proposed project would result in a cumulatively considerable contribution to air quality impacts and remain *significant and unavoidable* at the program level.