5.1 Air Quality

5.1.1 INTRODUCTION

This section provides an overview of the existing air quality within the City of Santa Ana and surrounding region, a summary of applicable regulations, and analyses of potential short-term and long-term air quality impacts from implementation of the proposed Project. Mitigation measures are recommended as necessary to reduce significant air quality impacts. This section is based upon the following:

- *City of Santa Ana General Plan Update*
- *City of Santa Ana General Plan Update FEIR*
- *City of Santa Ana Municipal Code*
- *Air Quality Assessment*, Appendix B
- *Health Risk Analysis*, Appendix C

5.1.2 REGULATORY SETTING

United States Environmental Protection Agency

Criteria Air Pollutants

At the federal level, the United States Environmental Protection Agency (USEPA) has been charged with implementing national air quality programs. The USEPA's air quality mandates are drawn primarily from the Federal Clean Air Act (CAA), which was enacted in 1970. The most recent major amendments to the CAA were made by Congress in 1990.

The CAA requires the USEPA to establish National Ambient Air Quality Standards (NAAQS). The USEPA has established primary and secondary NAAQS for the following criteria air pollutants: ozone, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, and lead. Table 5.2-1 shows the NAAQS for these pollutants. The CAA also requires each state to prepare an air quality control plan, referred to as a state implementation plan (SIP). The CAA Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. The USEPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and to determine whether implementing the SIPs will achieve air quality goals. If the USEPA determines a SIP to be inadequate, a federal implementation plan that imposes additional control measures may be prepared for the nonattainment area.

The USEPA also has regulatory and enforcement jurisdiction over emission sources beyond state waters (outer continental shelf), and those that are under the exclusive authority of the federal government, such as aircraft, locomotives, and interstate trucking. The USEPA's primary role at the state level is to oversee state air quality programs. The USEPA sets federal vehicle and stationary source emissions standards and provides research and guidance in air pollution programs.

Hazardous Air Pollutants

The USEPA has programs for identifying and regulating hazardous air pollutants (HAPs). Title III of the CAAA directed the USEPA to promulgate national emissions standards for HAPs (NESHAP). Major sources are defined as stationary sources with potential to emit more than 10 tons per year (tpy) of any HAP or more than 25 tpy of any combination of HAPs; all other sources are considered area sources. The emissions standards are to be promulgated in two phases. In the first phase (1992–2000), the USEPA developed

technology-based emission standards designed to produce the maximum emission reduction achievable. These standards are generally referred to as requiring maximum achievable control technology (MACT). For area sources, the standards may be different, based on generally available control technology. In the second phase (2001–2008), the USEPA promulgated health-risk-based emissions standards when deemed necessary, to address risks remaining after implementation of the technology-based NESHAP standards.

Table 5.1-1: Ambient Air Quality Standards for Criteria Pollutants

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour 8 hours	0.09 ppm 0.07 ppm	--- 0.075 ppm	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when ROG and NO_X react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
Carbon Monoxide (CO)	1 hour 8 hours	20 ppm 9.0 ppm	35 ppm 9 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
Nitrogen Dioxide (NO_2)	1 hour Annual Arithmetic Mean	0.18 ppm 0.030 ppm	0.100 ppm 0.053 ppm	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
Sulfur Dioxide (SO_2)	1 hour 3 hours 24 hours Annual Arithmetic Mean	0.25 ppm --- 0.04 ppm ---	75 ppb 0.50 ppm 0.14 ppm 0.03 ppm	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
Respirable Particulate Matter (PM_{10})	24 hours Annual Arithmetic Mean	50 µg/m³ 20 µg/m³	150 µg/m³ ---	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
Fine Particulate Matter ($PM_{2.5}$)	24 hours Annual Arithmetic Mean	--- 12 µg/m³	35 µg/m³ 12 µg/m³	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
Lead (Pb)	30 Day Average Calendar Quarter Rolling 3-Month Average	1.5 µg/m³ --- ---	--- 1.5 µg/m³ 0.15 µg/m³	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction (in severe cases).	*Present source:* lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline.
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)	Geothermal power plants, petroleum production and refining
Sulfates (SO_4)	24 hour	25 µg/m³	No National Standard	Decrease in ventilatory functions; aggravation of asthmatic symptoms; aggravation of cardio-pulmonary disease; vegetation damage; degradation of visibility; property damage.	Industrial processes.
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism.	See $PM_{2.5}$.

Note: ppm = parts per million; ppb = parts per billion; µg/m³ = micrograms per cubic meter.

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

California Air Resources Board

Criteria Air Pollutants

The California Air Resources Board (CARB), a department of the California Environmental Protection Agency, oversees air quality planning and control throughout California. CARB is responsible for coordination and oversight of state and local air pollution control programs in California and for implementation of the California Clean Air Act (CCAA). The CCAA, which was adopted in 1988, requires CARB to establish the California Ambient Air Quality Standards (CAAQS). CARB has established CAAQS for sulfates, hydrogen sulfide, vinyl chloride, visibility-reducing particulate matter, and the above-mentioned criteria air pollutants. Applicable CAAQS are shown in Table 5.1-1.

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

Among CARB's other responsibilities are overseeing compliance by local air districts with California and federal laws, approving local air quality plans, submitting SIPs to the USEPA, monitoring air quality, determining and updating area designations and maps, and setting emissions standards for new mobile sources, consumer products, small utility engines, off-road vehicles, and fuels.

Diesel Regulations

The CARB and the Ports of Los Angeles and Long Beach have adopted several iterations of regulations for diesel trucks that are aimed at reducing diesel particulate matter (DPM). More specifically, the CARB Drayage Truck Regulation, the CARB statewide On-road Truck and Bus Regulation, and the Ports of Los Angeles and Long Beach "Clean Truck Program" (CTP) require accelerated implementation of "clean trucks" into the statewide truck fleet. In other words, older more polluting trucks will be replaced with newer, cleaner trucks as a function of these regulatory requirements. Moreover, the average statewide DPM emissions for Heavy Duty Trucks (HHDT), in terms of grams of DPM generated per mile traveled, will dramatically be reduced due to these regulatory requirements. Diesel emissions identified in this analysis would overstate future DPM emissions because not all the regulatory requirements are reflected in the modeling.

Toxic Air Contaminants

Toxic Air Contaminants (TACs) are airborne substances capable of causing short-term (acute) and long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines.

Air quality regulations also focus on TACs. In general, for those TACs that may cause cancer, there is no concentration that does not present some risk. In other words, there is no safe level of exposure. This contrasts with the criteria air pollutants, for which acceptable levels of exposure can be determined and for which the ambient standards have been established. Instead, the USEPA and CARB regulate HAPs and TACs, respectively, through statutes and regulations that generally require the use of the maximum achievable control technology or best available control technology for toxics and to limit emissions. These statutes and regulations, in conjunction with additional rules set forth by the districts, establish the regulatory framework for TACs.

TACs in California are regulated primarily through the Tanner Air Toxics Act (Assembly Bill [AB] 1807 [Chapter 1047, Statutes of 1983]) and the Air Toxics Hot Spots Information and Assessment Act (Hot Spots Act) (AB 2588 [Chapter 1252, Statutes of 1987]). AB 1807 sets forth a formal procedure for CARB to designate substances as TACs. This includes research, public participation, and scientific peer review before CARB can designate a substance as a TAC. To date, CARB has identified more than 21 TACs and adopted the USEPA's list of HAPs as TACs. Most recently, diesel PM was added to the CARB list of TACs. Once a TAC is identified, CARB then adopts an airborne toxics control measure for sources that emit that particular TAC. If there is a safe threshold for a substance at which there is no toxic effect, the control measure must reduce exposure below that threshold. If there is no safe threshold, the measure must incorporate best available control technology to minimize emissions.

The Air Toxics Hot Spots Information and Assessment Act requires existing facilities emitting toxic substances above a specified level to prepare a toxic-emission inventory, prepare a risk assessment if emissions are significant, notify the public of significant risk levels, and prepare and implement risk reduction measures.

CARB published the Air Quality and Land Use Handbook: A Community Health Perspective (Handbook), which provides guidance concerning land use compatibility with TAC sources (CARB, 2005). Although it is not a law or adopted policy, the Handbook offers advisory recommendations for the siting of sensitive receptors near uses associated with TACs, such as freeways and high-traffic roads, commercial distribution centers, rail yards, ports, refineries, dry cleaners, gasoline stations, and industrial facilities, to help keep children and other sensitive populations out of harm's way. In addition, CARB has promulgated the following specific rules to limit TAC emissions:

- **CARB Rule 2485** (13 CCR, Chapter 10 Section 2485), Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling
- **CARB Rule 2480** (13 CCR Chapter 10 Section 2480), Airborne Toxic Control Measure to Limit School Bus Idling and Idling at Schools
- **CARB Rule 2477** (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

California Code of Regulations (CCR) Title 13, Motor Vehicles, Section 2449(d)(3)

No vehicle or engines subject to this regulation may idle for more than 5 consecutive minutes. The idling limit does not apply to:

- idling when queuing,
- idling to verify that the vehicle is in safe operating condition,
- idling for testing, servicing, repairing or diagnostic purposes,
- idling necessary to accomplish work for which the vehicle was designed (such as operating a crane),
- idling required to bring the machine system to operating temperature, and
- idling necessary to ensure safe operation of the vehicle.

Title 24 Energy Efficiency Standards and California Green Building Standards

California Code of Regulations (CCR) Title 24 Part 6: The California Energy Code (CALGreen) was first adopted in 1978 in response to a legislative mandate to reduce California's energy consumption. CALGreen is updated on a regular basis, with the most recent approved update consisting of the 2022 update that is applicable to building permit applications submitted after January 1, 2023. The updated 2022 standards focus on the following:

- Encouraging electric heat pump technology and use. Heat pumps use less energy and produce fewer emissions than traditional HVACs and water heaters.
- Establishing electric-ready requirements when natural gas is installed to provide for electric heating, cooking, and electric vehicle (EV) charging.
- Expanding solar photovoltaic (PV) system and battery storage standards.
- Strengthening ventilation standards to improve indoor air quality.

Indoor air quality within mechanically ventilated buildings is regulated by Section 5.504.5.3 (Filters) of the California Green Building Standards Code Part 11 that requires at least a Minimum Efficiency Reporting Value (MERV) of 13 air filtration systems for new buildings. The Code requires MERV 13 filters to be installed prior to occupancy and replaced and/or maintained as directed by the manufacturer.

In addition to these updated standards, the CALGreen standards that are applicable to the proposed Project include, but are not limited to, the following:

- Short-term bicycle parking. Provide permanently anchored bicycle racks within 200 feet of the visitors' entrance, readily visible to passers-by, for 5 percent of new visitor motorized vehicle parking spaces being added, with a minimum of one two-bike capacity rack.
- Long-term bicycle parking. For new buildings with tenant spaces that have 10 or more tenant-occupants, provide secure bicycle parking for 5 percent of the tenant-occupant vehicular parking spaces with a minimum of one bicycle parking facility.
- Designated parking for clean air vehicles. Provide designated parking for any combination of low-emitting, fuel-efficient and carpool/van pool vehicles as shown in Title 24 Part 6 Table 5.106.5.2.
- Electric vehicle charging stations. Facilitate the future installation of electric vehicle supply equipment. The compliance requires empty raceways for future conduit and documentation that the electrical system has adequate capacity for the future load.
- Outdoor light pollution reduction. Outdoor lighting systems shall be designed to meet the backlight, uplight, and glare ratings per Title 24 Part 6 Table 5.106.8.
- Construction waste management. Recycle and/or salvage for reuse a minimum of 65 percent of the nonhazardous construction and demolition waste.
- Excavated soil and land clearing debris. 100 percent of trees, stumps, rocks and associated vegetation and soils resulting primarily from land clearing shall be reused or recycled.
- Recycling by Occupants. Provide readily accessible areas that serve the entire building and are identified for the depositing, storage, and collection of non-hazardous materials for recycling, including (at a minimum) paper, corrugated cardboard, glass, plastics, organic waste, and metals.
- Water conserving plumbing fixtures and fittings. Plumbing fixtures (water closets and urinals) and fittings (faucets and showerheads) shall comply with the following:
    - Water Closets. The effective flush volume of all water closets shall not exceed 1.28 gallons per flush.
    - Urinals. The effective flush volume of wall-mounted urinals shall not exceed 0.125 gallons per flush. The effective flush volume of floor-mounted or other urinals shall not exceed 0.5 gallons per flush.
    - Faucets and fountains. Nonresidential lavatory faucets shall have a maximum flow rate of not more than 0.5 gallons per minute at 60 psi. Kitchen faucets shall have a maximum flow rate of not more than 1.8 gallons per minute of 60 psi. Wash fountains shall have a maximum flow rate of not more than 1.8 gallons per minute. Metering faucets shall not deliver more than 0.20 gallons per cycle. Metering faucets for wash fountains shall have a maximum flow rate of not more than 0.20 gallons per cycle.

- Outdoor portable water use in landscaped areas. Nonresidential developments shall comply with a local water efficient landscape ordinance or the current California Department of Water Resources' Model Water Efficient (MWELO), whichever is more stringent.
- Water meters. Separate submeters or metering devices shall be installed for new buildings or where any tenant within a new building or within an addition that is project to consume more than 1,000 gallons per day.
- Outdoor water use in rehabilitated landscape projects equal or greater than 2,500 SF. Rehabilitated landscape projects with an aggregate landscape area equal to or greater than 2,500 SF requiring a building or landscape permit.
- Commissioning. For new buildings 10,000 SF and over, building commissioning shall be included in the design and construction processes of the building project to verify that the building systems and components meet the owner's or owner representative's project requirements.

The CALGreen Building Standards Code has been adopted by the City of Santa Ana by reference in Municipal Code Section 8-2900.

SCAQMD

Criteria Air Pollutants

South Coast Air Quality Management District (SCAQMD) attains and maintains air quality conditions in the South Coast Air Basin (Basin) through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The clean air strategy of SCAQMD includes preparation of plans for attainment of ambient air quality standards, adoption and enforcement of rules and regulations concerning sources of air pollution, and issuance of permits for stationary sources of air pollution. SCAQMD also inspects stationary sources of air pollution and responds to citizen complaints; monitors ambient air quality and meteorological conditions; and implements programs and regulations required by the CAA, CAAA, and CCAA. Air quality plans applicable to the proposed Project are discussed below.

Air Quality Management Plan

SCAQMD and the Southern California Association of Governments (SCAG) are responsible for preparing the air quality management plan (AQMP), which addresses federal and state CAA requirements. The AQMP details goals, policies, and programs for improving air quality in the Basin.

SCAG is mandated by law to develop a long-term regional transportation and sustainability plan every four years. The most recently adopted AQMP is the 2022 AQMP that was adopted by the SCAQMD Governing Board on December 2, 2022. The 2022 AQMP builds upon measures already in place from previous AQMPs. It also includes a variety of additional strategies such as regulation, accelerated deployment of available cleaner technologies (e.g., zero emissions technologies, when cost-effective and feasible, and low NOx technologies in other applications), best management practices, co-benefits from existing programs (e.g., climate and energy efficiency), incentives, and other CAA measures to achieve the 2015 federal 8-hour ozone standard. SCAQMD proposes a total of 49 control measures for the 2022 AQMP, including control measures focused on widespread deployment of zero emission and low NOx technologies through a combination of regulatory approaches and incentives.

The RTP/SCS also provides a combination of transportation and land use strategies that help the region achieve state GHG emissions reduction goals and Federal Clean Air Act requirements, preserve open space areas, improve public health and roadway safety, support our vital goods movement industry, and use

resources more efficiently. GHG emissions resulting from development-related mobile sources are the most potent source of emissions.

SCAQMD Rules and Regulations

All projects are subject to SCAQMD rules and regulations. Specific rules applicable to the proposed Project include the following:

Rule 203 – Permit to Operate. A person shall not operate or use any equipment or agricultural permit unit, the use of which may cause the issuance of air contaminants, or the use of which may reduce or control the issuance of air contaminants, without first obtaining a written permit to operate from the Executive Officer or except as provided in Rule 202. The equipment or agricultural permit unit shall not be operated contrary to the conditions specified in the permit to operate.

Rule 401 – Visible Emissions. A person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any 1 hour that is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart, as published by the United States Bureau of Mines.

Rule 402 – Nuisance. A person shall not discharge from any source whatsoever such quantities of air contaminants or other material that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. The provisions of this rule do not apply to odors emanating from agricultural operations necessary for the growing of crops or the raising of fowl or animals.

Rule 403 – Fugitive Dust. SCAQMD Rule 403 governs emissions of fugitive dust during and after construction. Compliance with this rule is achieved through application of standard Best Management Practices, such as application of water or chemical stabilizers to disturbed soils, covering haul vehicles, restricting vehicle speeds on unpaved roads to 15 miles per hour, sweeping loose dirt from paved site access roadways, cessation of construction activity when winds exceed 25 mph, and establishing a permanent ground cover on finished sites.

Rule 403 requires project applicants to control fugitive dust using the best available control measures such that dust does not remain visible in the atmosphere beyond the property line of the emission source. In addition, Rule 403 requires implementation of dust suppression techniques to prevent fugitive dust from creating an offsite nuisance. Applicable Rule 403 dust suppression (and PM_{10} generation) techniques to reduce impacts on nearby sensitive receptors may include, but are not limited to, the following:

- Apply nontoxic chemical soil stabilizers according to manufacturers' specifications to all inactive construction areas (previously graded areas inactive for 10 days or more).
- Water active sites at least three times daily. Locations where grading is to occur shall be thoroughly watered prior to earthmoving.
- Cover all trucks hauling dirt, sand, soil, or other loose materials, or maintain at least 0.6 meters (2 feet) of freeboard (vertical space between the top of the load and top of the trailer) in accordance with the requirements of California Vehicle Code Section 23114.
- Reduce traffic speeds on all unpaved roads to 15 miles per hour (mph) or less.
- Suspend all grading activities when wind speeds (including instantaneous wind gusts) exceed 25 mph.
- Provide bumper strips or similar best management practices where vehicles enter and exit the construction site onto paved roads or wash off trucks and any equipment leaving the site each trip.

- Replant disturbed areas as soon as practical.
- Sweep onsite streets (and offsite streets if silt is carried to adjacent public thoroughfares) to reduce the amount of particulate matter on public streets. All sweepers shall be compliant with SCAQMD Rule 1186.1, Less Polluting Sweepers.

Rule 431.2 – Sulfur Content of Liquid Fuels. This rule limits the sulfur content in diesel and other liquid fuels for the purpose of both reducing the formation of sulfur oxides and particulates during combustion and to enable the use of add-on control devices for diesel fueled internal combustion engines.

Rule 445 – Wood Burning. This rule prohibits permanently installed wood burning devices into any new development. A wood burning device means any fireplace, wood burning heater, or pellet-fueled wood heater, or any similarly enclosed, permanently installed, indoor or outdoor device burning any solid fuel for aesthetic or space-heating purposes, which has a heat input of less than one million British thermal units per hour.

Rule 481 – Spray Coating. This rule applies to all spray painting and spray coating operations and equipment and states that a person shall not use or operate any spray painting or spray coating equipment unless one of the following conditions is met:

- The spray coating equipment is operated inside a control enclosure, which is approved by the Executive Officer. Any control enclosure for which an application for permit for new construction, alteration, or change of ownership or location is submitted after the date of adoption of this rule shall be exhausted only through filters at a design face velocity not less than 100 feet per minute nor greater than 300 feet per minute, or through a water wash system designed to be equally effective for the purpose of air pollution control.
- Coatings are applied with high-volume low-pressure, electrostatic and/or airless spray equipment.
- An alternative method of coating application or control is used which has effectiveness equal to or greater than the equipment specified in the rule.

Rule 1108 - Volatile Organic Compounds. This rule governs the sale, use, and manufacturing of asphalt and limits the volatile organic compound (VOC) content in asphalt used in the Basin. This rule also regulates the VOC content of asphalt used during construction. Therefore, all asphalt used during construction of the proposed Project must comply with SCAQMD Rule 1108.

Rule 1113 – Architectural Coatings. No person shall apply or solicit the application of any architectural coating within the SCAQMD with VOC content in excess of the values specified in a table incorporated in the Rule. A list of low/no-VOC paints is provided at the following SCAQMD website: www.aqmd.gov/prdas/brochures/paintguide.html. All paints will be applied using either high volume low-pressure spray equipment or by hand application.

Rule 1143 – Paint Thinners and Solvents. This rule governs the manufacture, sale, and use of paint thinners and solvents used in thinning of coating materials, cleaning of coating application equipment, and other solvent cleaning operations by limiting their VOC content. This rule regulates the VOC content of solvents used during construction. Solvents used during the construction phase must comply with this rule.

Rule 1186 – Emissions from Paved and Unpaved Roads. The purpose of this rule is to reduce the amount of particulate matter entrained in the ambient air as a result of vehicular travel and requires that any owner or operator of a paved public road on which there is visible roadway accumulations shall begin removal of such material through street cleaning within 72 hours of any notification of the accumulation and shall completely remove such material as soon as feasible.

Rule 1186.1 - Less-Polluting Sweepers. This rule requires public and private sweeper fleet operators to acquire alternative-fuel or otherwise less-polluting sweepers when purchasing or leasing these vehicles for sweeping operations.

City of Santa Ana General Plan

The General Plan includes the following goals and policies that may reduce air quality impacts and are relevant to the proposed Project:

Mobility Element

POLICY M-3.7 Enhance streets to facilitate safe walking, bicycling, and other nonmotorized forms of transportation through community participatory design.

POLICY M-4.1 Program multimodal transportation and public realm improvements that support new development in areas along transit corridors and areas planned for high intensity development.

POLICY M-4.2 Encourage active transportation, transit use, and connectivity through physical improvements and public realm amenities identified during the City's Development Review process.

POLICY M-4.3 Coordinate with OCTA, employers, and developers to utilize TDM (transportation demand management) strategies and education to reduce vehicle trips and parking demands.

POLICY M-4.6 Promote reductions in automobile trips and vehicle miles traveled by encouraging transit use and nonmotorized transportation as alternatives to augmenting roadway capacity.

POLICY M-4.7 Explore and implement a flexible menu of parking options and other strategies to efficiently coordinate the response to parking demands.

POLICY M-4.9 Consider land use, building, site planning, and technology solutions to mitigate exposure to transportation related air pollution.

POLICY M-5.6 Encourage the use of alternative fuel vehicles and mobility technologies through the installation of supporting infrastructure.

Conservation Element

POLICY C-1.3 Promote efforts to educate businesses and the general public about air quality standards, reducing the urban heat island effect, health effects from poor air quality and extreme heat, and best practices they can make to improve air quality and reduce greenhouse gas emissions.

POLICY C-1.4 Support new development that meets or exceeds standards for energy-efficient building design and site planning.

POLICY C-1.5 Consider potential impacts of stationary and non-stationary emission sources on existing and proposed sensitive uses and opportunities to minimize health and safety risks. Develop and adopt new regulations on the siting of facilities that might significantly increase pollution near sensitive receptors within environmental justice area boundaries.

POLICY C-1.8 Promote use of alternate modes of transportation in the City of Santa Ana, including pedestrian, bicycling, public transportation, car sharing programs and emerging technologies.

POLICY C-1.9 Continue to invest in infrastructure projects that support public transportation and alternate modes of transportation in the City of Santa Ana, including pedestrian, bicycling, public transportation, car sharing programs, and emerging technologies.

POLICY C-1.12 Encourage the use of low or zero emission vehicles, bicycles, non-motorized vehicles, and car-sharing programs by supporting new and existing development that includes sustainable infrastructure and strategies such as vehicle charging stations, drop-off areas for ridesharing services, secure bicycle parking, and transportation demand management programs.

POLICY C-1.14 Require and incentivize projects to incorporate Transportation Demand Management (TDM) techniques.

POLICY C-3.3 Promote energy efficient-development patterns by clustering mixed use developments and compatible uses adjacent to public transportation.

Land Use Element

POLICY LU-1.5 Incentivize quality infill residential development that provides a diversity of housing types and accommodates all income levels and age groups.

POLICY LU-1.6 Encourage residential mixed-use development, within the City's District Centers and Urban Neighborhoods, and adjacent to high quality transit.

POLICY LU-2.5 Encourage infill mixed-use development at all ranges of affordability to reduce vehicle miles travelled, improve jobs/housing balance, and promote social interaction.

POLICY LU-2.10 Focus high density residential in mixed-use villages, designated planning focus areas, Downtown Santa Ana, and along major travel corridors.

POLICY LU-3.8 Avoid the development of industry and sensitive receptors in close proximity to each other that could pose a hazard to human health and safety, due to the quantity, concentration, or physical or chemical characteristics of the hazardous materials utilized, or the hazardous waste an operation may generate or emit.

POLICY LU-3.9 Improve the health of residents, students, and workers by limiting the impacts of construction activities and operation of noxious, hazardous, dangerous, and polluting uses that are in close proximity to sensitive receptors, with priority given to discontinuing such uses within environmental justice areas boundaries.

POLICY LU-3.12 Require new sensitive land uses proposed in areas with high levels of localized air pollution to achieve good indoor air quality through landscaping, ventilation systems, or other measures.

POLICY LU-4.1 Promote complete neighborhoods by encouraging a mix of complementary uses, community services, and people places within a walkable area.

POLICY LU-4.3 Encourage land uses and strategies that reduce energy and water consumption, waste and noise generation, soil contamination, air quality impacts, and light pollution.

POLICY LU-4.5 Concentrate development along high-quality transit corridors to reduce vehicle miles traveled (VMT) and transportation related carbon emissions.

Open Space Element

POLICY OS-2.5 Coordinate park renovation and development to address air quality and climate impacts by reducing heat island effect by providing green infrastructure and shade, and reducing air pollution by providing vegetation that removes pollutants and air particles.

POLICY OS-3.5 Encourage the planting of native and diverse tree species in public and private spaces to reduce heat island effect, reduce energy consumption, and contribute to carbon mitigation.

5.1.3 ENVIRONMENTAL SETTING

Climate and Meteorology

The City of Santa Ana is located within the South Coast Air Basin (Basin), which is under the jurisdiction of the SCAQMD. The Basin is a 6,600-square-mile coastal plain bounded by the Pacific Ocean to the southwest and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes the non-desert portions of Los Angeles, Riverside, and San Bernardino counties, and all of Orange County.

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

Atmospheric conditions such as wind speed, wind direction, and air temperature gradients interact with the physical features of the landscape to determine the movement and dispersal of air pollutants. The topography and climate of Southern California combine to make the Basin an area of high air pollution potential. The Basin is a coastal plain with connecting broad valleys and low hills, bounded by the Pacific Ocean to the west and high mountains around the rest of the perimeter. The general region lies in the semi-permanent high-pressure zone of the eastern Pacific, resulting in a mild climate tempered by cool sea breezes with light average wind speeds. The usually mild climatological pattern is disrupted occasionally by periods of extremely hot weather, winter storms, or Santa Ana winds. During the summer months, a warm air mass frequently descends over the cool, moist marine layer produced by the interaction between the ocean's surface and the lowest layer of the atmosphere. The warm upper layer forms a cap over the cool marine layer and inhibits the pollutants in the marine layer from dispersing upward. In addition, light winds during the summer further limit ventilation. Furthermore, sunlight triggers the photochemical reactions which produce ozone.

Criteria Air Pollutants

The CARB and the USEPA currently focus on the following air pollutants as indicators of ambient air quality: ozone, carbon monoxide (CO), nitrogen dioxide (NO_2), sulfur dioxide (SO_2), respirable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM_{10}), fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less ($PM_{2.5}$), and lead. These pollutants are referred to as "criteria air pollutants" because they are the most prevalent air pollutants known to be injurious to human health. Extensive health-effects criteria documents regarding the effects of these pollutants on human health and welfare have been prepared over the years.[1] Standards have been established for each criteria pollutant to meet specific

[1] Additional sources of information on the health effects of criteria pollutants can be found at CARB and USEPA's websites at http://www.arb.ca.gov/research/health/health.htm and http://www.epa.gov/air/airpollutants.html, respectively.

public health and welfare criteria set forth in the Federal CAA. California has generally adopted more stringent ambient air quality standards for the criteria air pollutants (CAAQS or state standards) and has adopted air quality standards for some pollutants for which there is no corresponding national standard (NAAQS), such as sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles.

Ozone. Ozone, the main component of photochemical smog, is primarily a summer and fall pollution problem. Ozone is not emitted directly into the air but is formed through a complex series of chemical reactions involving other compounds that are directly emitted. These directly emitted pollutants (also known as ozone precursors) include reactive organic gases (ROGs) or volatile organic compounds (VOCs), and oxides of nitrogen (NO_X). While both ROGs and VOCs refer to compounds of carbon, ROG is a term used by CARB and is based on a list of exempted carbon compounds determined by CARB. VOC is a term used by the USEPA and is based on its own exempt list. The time period required for ozone formation allows the reacting compounds to spread over a large area, producing regional pollution problems. Ozone concentrations are the cumulative result of regional development patterns rather than the result of a few significant emission sources.

Once ozone is formed, it remains in the atmosphere for one or two days. Ozone is then eliminated through reaction with chemicals on the leaves of plants, attachment to water droplets as they fall to earth ("rainout"), or absorption by water molecules in clouds that later fall to earth with rain ("washout"). Short-term exposure to ozone can irritate the eyes and cause constriction of the airways. In addition to causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

Carbon Monoxide. CO is a colorless, odorless gas produced by the incomplete combustion of carbon-containing fuels, such as gasoline or wood. CO concentrations tend to be the highest during the winter morning, when little to no wind and surface-based inversions trap the pollutant at ground levels. Because CO is emitted directly from internal combustion engines, unlike ozone, motor vehicles operating at slow speeds are the primary source of CO in the Basin. The highest ambient CO concentrations are generally found near congested transportation corridors and intersections.

Nitrogen Dioxide. NO_2 is a reddish-brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form NO_2. The combined emissions of NO and NO_2 are referred to as NO_X, which are reported as equivalent NO_2. Aside from its contribution to ozone formation, NO_2 can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of a brown cloud on high pollution days, especially in conjunction with high ozone levels.

Sulfur Dioxide. SO_2 is a colorless, extremely irritating gas or liquid that enters the atmosphere as a pollutant mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries. When SO_2 oxidizes in the atmosphere, it forms sulfur trioxide (SO_3). Collectively, these pollutants are referred to as sulfur oxides (SO_X). Major sources of SO_2 include power plants, large industrial facilities, diesel vehicles, and oil-burning residential heaters. Emissions of SO_2 aggravate lung diseases, especially bronchitis. This compound also constricts the breathing passages, especially in people with asthma and people involved in moderate to heavy exercise. SO_2 potentially causes wheezing, shortness of breath, and coughing. Long-term SO_2 exposure has been associated with increased risk of mortality from respiratory or cardiovascular disease.

Particulate Matter. PM_{10} and $PM_{2.5}$ consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively (a micron is one-millionth of a meter). PM_{10} and $PM_{2.5}$ represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis and

respiratory illnesses in children. Particulate matter can also damage materials and reduce visibility. One common source of $PM_{2.5}$ is diesel exhaust emissions.

PM_{10} consists of particulate matter emitted directly into the air (e.g., fugitive dust, soot, and smoke from mobile and stationary sources, construction operations, fires, and natural windblown dust) and particulate matter formed in the atmosphere by condensation and/or transformation of SO_2 and ROG. Traffic generates particulate matter emissions through entrainment of dust and dirt particles that settle onto roadways and parking lots. PM_{10} and $PM_{2.5}$ are also emitted by burning wood in residential wood stoves and fireplaces and open agricultural burning. $PM_{2.5}$ can also be formed through secondary processes such as airborne reactions with certain pollutant precursors, including ROGs, ammonia (NH_3), NO_X, and SO_X.

Lead. Lead is a metal found naturally in the environment and present in some manufactured products. There are a variety of activities that can contribute to lead emissions, which are grouped into two general categories, stationary and mobile sources. On-road mobile sources include light-duty automobiles; light-, medium-, and heavy-duty trucks; and motorcycles. Emissions of lead have dropped substantially over the past 40 years. The reduction before 1990 is largely due to the phase-out of lead as an anti-knock agent in gasoline for on-road automobiles. Substantial emission reductions have also been achieved due to enhanced controls in the metals processing industry. In the Basin, atmospheric lead is generated almost entirely by the combustion of leaded gasoline and contributes less than one percent of the material collected as total suspended particulates.

Existing Conditions

SCAQMD maintains monitoring stations within district boundaries that monitor air quality and compliance with associated ambient standards. The Project site is located within the monitoring boundary of the Anaheim-Pampas Lane monitoring station (SRA 17), which is 9.7 miles north of the Project site. The most recent 3 years of data is shown on Table 5.1-2 and identifies the number of days ambient air quality standards were exceeded in the area.

The federal PM_{10} standard had no exceedances. The state PM_{10} standard was exceeded 4 times in 2019, 5 times in 2020, and 1 time in 2021. The $PM_{2.5}$ federal standard had 4 exceedances in 2019, 12 exceedances in 2020, and 10 exceedances in 2021. The 1-hour ozone state standard was exceeded 1 time in 2019, 6 times in 2020, and 0 times in 2021. The 8-hour ozone federal standard was 1 time in 2019, 15 times in 2020, and 0 times in 2021. In addition, the CO, SO_2, and NO_2 standards were not exceeded in this area during the 3-year period.

Both CARB and the USEPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and thereby initiate planning efforts for improvement. The three basic designation categories are nonattainment, attainment, and unclassified. Nonattainment is defined as any area that does not meet (or that contributes to ambient air quality in a nearby area that does not meet) the primary or secondary ambient air quality standard for the pollutant. Attainment is defined as any area that meets the primary or secondary ambient air quality standard for the pollutant. Unclassifiable is defined as any area that cannot be classified on the basis of available information as meeting or not meeting the primary or secondary ambient air quality standard for the pollutant. In addition, California designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment.

Table 5.1-2: Air Quality Monitoring Summary 2019-2021

Criteria Pollutant	2019	2020	2021
Ozone (O_3)			
1-hour Maximum Concentration (ppm)	0.096	0.142	0.089
8-hour Maximum Concentration (ppm)	0.082	0.097	0.068
Number of Days Standard Exceeded			
CAAQS 1-hour (>0.09 ppm)	1	6	0
NAAQS 8-hour (>0.070 ppm)	1	15	0
Carbon Monoxide (CO)			
1-hour Maximum Concentration (ppm)	2.635	1.316	2.288
Number of Days Standard Exceeded			
NAAQS 1-hour (>35 ppm)	0	0	0
CAAQS 1-hour (>20 ppm)	0	0	0
Nitrogen Dioxide (NO_2)			
1-hour Maximum Concentration (ppm)	0.0594	0.0709	0.0671
Number of Days Standard Exceeded			
NAAQS 1-hour (>0.100 ppm)	0	0	0
CAAQS 1-hour (>0.18 ppm)	0	0	0
Particulate Matter Less Than 10 Microns (PM_{10})			
National 24-hour Maximum Concentration	127.6	74.8	63.6
State 24-hour Maximum Concentration	127.1	74.5	63.3
State Annual Average Concentration (CAAQS=20 µg/m^3)	—	—	—
Number of Days Standard Exceeded			
NAAQS 24-hour (>150 µg/m^3)	0	0	0
CAAQS 24-hour (>50 µg/m^3)	4	5	1
Particulate Matter Less Than 2.5 Microns ($PM_{2.5}$)			
National 24-hour Maximum Concentration	36.1	60.2	54.4
State 24-hour Maximum Concentration	37.1	64.8	54.4
Number of Days Standard Exceeded			
NAAQS 24-hour (>35 µg/m^3)	4	12	10

Source: Air Quality Assessment, Appendix B.

The Basin is currently designated as a nonattainment area for O_3, PM_{10}, and $PM_{2.5}$ CAAQS, as well as the 8-hour O_3 and $PM_{2.5}$ NAAQS. The Basin is designated as attainment or unclassified for the remaining CAAQS and NAAQS. See Table 5.1-3, for attainment designations for the Basin.

Table 5.1-3: Attainment Status of Criteria Pollutants in the Basin

Criteria Pollutant	State Designation	Federal Designation
Ozone (O_3) (1 Hour Standard)	Non-Attainment	Non-Attainment (Extreme)
Ozone (O_3) (8 Hour Standard)	Non-Attainment	Non-Attainment (Extreme)
Particulate Matter ($PM_{2.5}$) (24 Hour Standard)	–	Non-Attainment (Serious)
Particulate Matter ($PM_{2.5}$) (Annual Standard)	Non-Attainment	Non-Attainment (Moderate)
Particulate Matter (PM_{10}) (24 Hour Standard)	Non-Attainment	Attainment (Maintenance)
Particulate Matter (PM_{10}) (Annual Standard)	Non-Attainment	–
Carbon Monoxide (CO) (1 Hour Standard)	Attainment	Attainment (Maintenance)
Carbon Monoxide (CO) (8 Hour Standard)	Attainment	Attainment (Maintenance)
Nitrogen Dioxide (NO_2) (1 Hour Standard)	Attainment	Unclassifiable/Attainment
Nitrogen Dioxide (NO_2) (Annual Standard)	Attainment	Attainment (Maintenance)
Sulfur Dioxide (SO_2) (1 Hour Standard)	Attainment	Unclassifiable/Attainment
Sulfur Dioxide (SO_2) (24 Hour Standard)	Attainment	–
Lead (Pb) (30 Day Standard)	–	Unclassifiable/Attainment
Lead (Pb) (3 Month Standard)	Attainment	–
Sulfates (SO_{4-2}) (24 Hour Standard)	Attainment	–
Hydrogen Sulfide (H_2S) (1 Hour Standard)	Unclassified	–

Source: Air Quality Assessment, Appendix B.

Current Emissions from Existing Onsite Uses. The Project site is currently developed with 16 commercial buildings that total approximately 465,063 SF. The estimated operation-source emissions from the existing commercial uses on the Project site are provided in Table 5.1-4.

Table 5.1-4: Existing Project Site Operational Air Quality Emissions

Source	Emissions (Maximum Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Existing Phase 1 Area Emissions						
Mobile Emissions	51.03	28.44	269.56	0.51	10.26	2.27
Area Source Emissions	9.32	0.18	21.22	0.00	0.01	0.04
Energy Emissions	0.02	0.39	0.33	0.00	35.52	0.03
Total Existing Phase 1 Area Emissions	**60.38**	**29.01**	**291.11**	**0.51**	**45.79**	**2.34**
Existing Phase 2 Area Emissions						
Mobile Emissions	8.00	7.53	40.34	39.79	1.54	0.34
Area Source Emissions	1.39	0.87	3.17	0.00	0.00	0.01
Energy Emissions	0.01	0.06	0.06	0.05	0.00	0.00
Total Existing Phase 2 Area Emissions	**9.41**	**8.46**	**43.57**	**39.84**	**1.54**	**0.35**
Existing Phase 3 Area Emissions						
Mobile Emissions	38.54	21.48	203.58	0.38	7.75	1.72
Area Source Emissions	7.04	0.14	16.03	0.00	0.02	0.03
Energy Emissions	0.02	0.30	0.25	0.00	0.02	0.02
Total Existing Phase 3 Area Emissions	**45.60**	**21.91**	**219.86**	**0.38**	**7.79**	**1.77**
Total Existing Emissions from Entire Site	**115.38**	**59.38**	**554.53**	**40.73**	**55.13**	**4.46**

Source: Air Quality Assessment, Appendix B.

Sensitive Land Uses

Land uses such as schools, children's daycare centers, hospitals, and convalescent homes are considered to be more sensitive to poor air quality than the general public because the population groups associated with these uses have increased susceptibility to respiratory distress. In addition, residential uses are considered more sensitive to air quality conditions than commercial and industrial uses, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution, even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation.

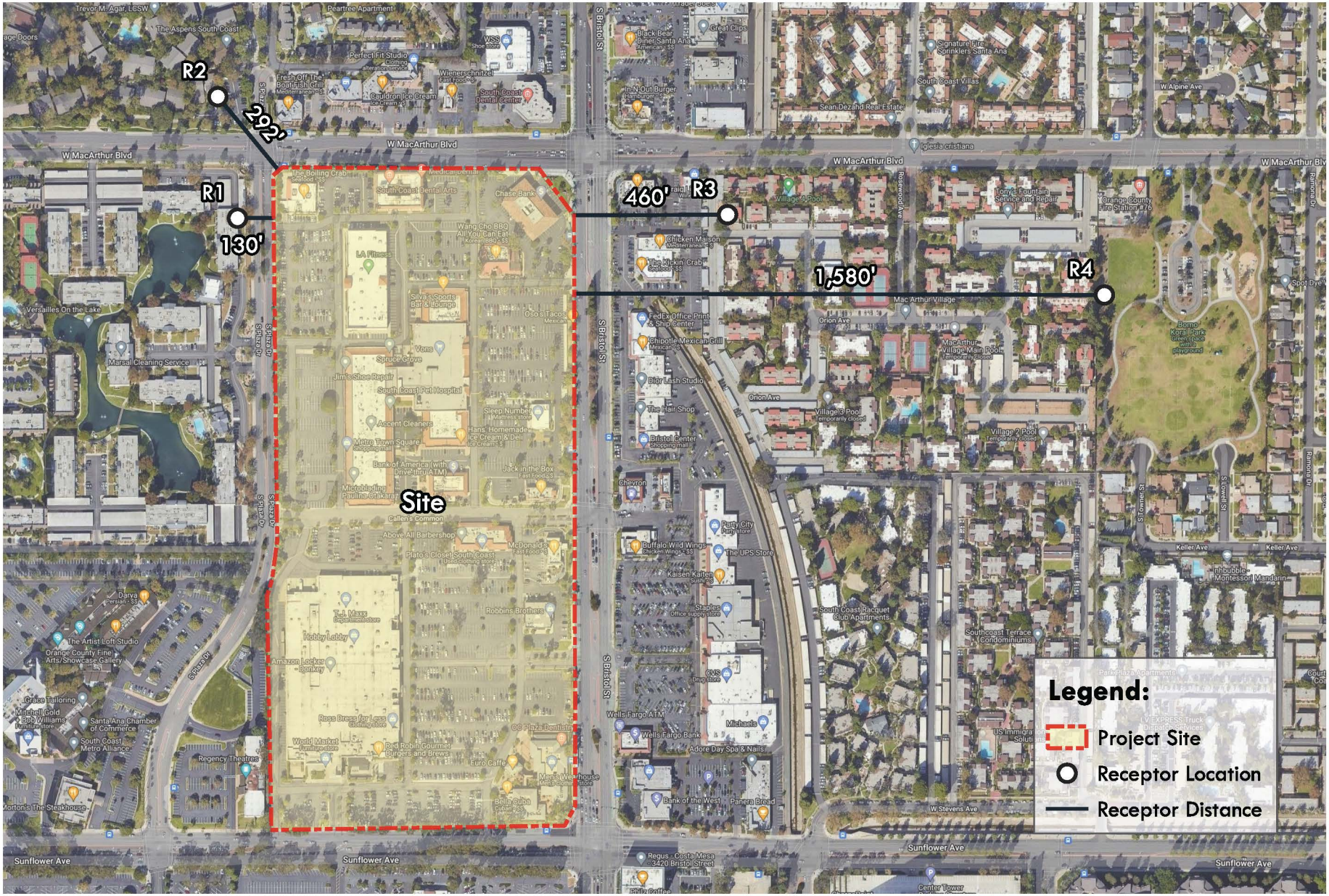
Existing offsite sensitive air quality receptors where someone can remain for 24-hours in the vicinity of the Project site consists of residences. The closest offsite residences are located 130 feet (40 meters) to the west of the site as listed in Table 5.1-5.

Table 5.1-5: Closest Sensitive Receptors to the Project Site

Receptor Number	Receptor Description	Distance and Direction from the Project Site
R1	Multi-family Residences	130 feet to the west
R2	Multi-family Residences	292 feet to the northwest
R3	Multi-family Residences	460 feet to the east
R4	Bomo Koral Park	1,580 feet to the east

Source: Air Quality Assessment, Appendix B

Sensitive Receptor Locations



Related Bristol Specific Plan Project
Draft Supplemental EIR

Figure 5.1-1

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5.1.4 THRESHOLDS OF SIGNIFICANCE

Appendix G of State CEQA Guidelines indicates that a project could have a significant effect if it were to:

AQ-1 Conflict with or obstruct implementation of the applicable air quality plan;

AQ-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;

AQ-3 Expose sensitive receptors to substantial pollutant concentrations; or

AQ-4 Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people.

Regional Thresholds

The SCAQMD's regional significance thresholds are listed in Table 5.1-6. The SCAQMD's CEQA air quality methodology provides that any projects that result in daily emissions that exceed any of these thresholds would have both an individually (project-level) and cumulatively significant air quality impact.

Table 5.1-6: SCAQMD Regional Air Quality Thresholds

Pollutant	Construction	Operations
Reactive Organic Gases (ROG)	75	55
Carbon Monoxide (CO)	550	550
Nitrogen Oxides (NO_X)	100	55
Sulfur Oxides (SO_X)	150	150
Coarse Particulates (PM_{10})	150	150
Fine Particulates ($PM_{2.5}$)	55	55

Localized Significance Thresholds

SCAQMD has also developed localized significance thresholds (LSTs) that represent the maximum emissions from a project that are not expected to cause or contribute to an exceedance of the most stringent applicable federal or state ambient air quality standards, and thus would not cause or contribute to localized air quality impacts. LSTs are developed based on the ambient concentrations of that pollutant for each of the 38 source receptor areas (SRAs) in the Basin. The Project site is located within Central Orange County (SRA 17). The localized thresholds, which are found in the mass rate look-up tables in the "Final Localized Significance Threshold Methodology" document prepared by SCAQMD, were developed for use on projects that are less than or equal to 5-acres in size and are only applicable to the following criteria pollutants: NOx, CO, PM_{10}, and $PM_{2.5}$.

The proposed Project's construction activities could actively disturb approximately 5.0 acres per day during grading activities. The applicable SCAQMD localized thresholds from the "*Final Localized Significance Threshold Methodology*" document's mass rate look-up tables are used to evaluate construction emissions. The applicable LSTs construction thresholds for grading up to 5 acres per day at 130 feet (40 meters), which is the distance of the closest sensitive receptor are shown in Table 5.1-7.

Table 5.1-7: SCAQMD Localized Significance Construction/Operations Thresholds at a Distance of 40 Meters

	Maximum Pounds Per Day			
Project Size	**NO_X**	**CO**	**PM_{10}**	**$PM_{2.5}$**
1 Acre	82.20/82.20	645.80/645.80	8.80/2.20	3.60/1.00
2 Acres	114.40/114.40	910.60/910.60	13.80/3.80	5.20/1.60
4 Acres	153.73/153.73	1,331.27/1,331.27	23.67/6.07	7.20/2.27
5 Acres	173.40/173.40	1,541.60/1,541.60	28.60/7.20	8.20/2.43

Source: Air Quality Assessment, Appendix B

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 one-hour standard of 20 ppm or the eight-hour standard of 9 ppm. Because CO is produced in greatest quantities from vehicle combustion and does not readily disperse into the atmosphere, adherence to ambient air quality standards 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. With the turnover of older vehicles and introduction of cleaner fuels as well as implementation of control technology on industrial facilities, CO concentrations in the South Coast Air Basin and the state have steadily declined. The analysis of CO hotspots compares the volume of traffic that has the potential to generate a CO hotspot and the volume of traffic with implemenation of the proposed Project.

Diesel Mobile Source Health Risk Threshold

Cancer risk is expressed in terms of expected incremental incidence per million population. The SCAQMD has established an incidence rate of 10 persons per million as the maximum acceptable incremental cancer risk due to diesel particulate matter (DPM) exposure. This threshold serves to determine whether or not a given project has a potentially significant development-specific and cumulative impact. Projects that exceed the project-specific significance thresholds are considered by the SCAQMD to be cumulatively considerable. Thus, the project-specific and cumulative significance thresholds are the same. Conversely, projects that do not exceed the project-specific thresholds are not considered to be cumulatively significant.

5.1.5 METHODOLOGY

This analysis focuses on the nature and magnitude of the change in the air quality environment due to implementation of the proposed Project, based on the maximum development assumptions that are outlined in Chapter 3.0*, Project Description*. Air pollutant emissions associated with the proposed Project would result from construction equipment usage and from construction-related traffic. Additionally, emissions would be generated from operations of the future residential and commercial buildings and from traffic generated by the new residences and commercial uses. The net increase in emissions generated by these activities and other secondary sources have been quantitatively estimated and compared to the applicable thresholds of significance recommended by SCAQMD.

AQMP Consistency

SCAQMD's CEQA Handbook suggests an evaluation of the following two criteria to determine whether a project involving a legislative land use action (such as the proposed General Plan land use and zoning designation changes) would be consistent or in conflict with the AQMP:

1. The project would not generate population and employment growth that would be inconsistent with SCAG's growth forecasts.
2. The project would not result in an increase in the frequency or severity of existing air quality violations or cause or contribute to new violations or delay the timely attainment of air quality standards or the interim emissions reductions specified in the AQMP.

Consistency Criterion No. 1 refers to the SCAG's growth forecast and associated assumptions included in the AQMP. The future air quality levels projected in the AQMP are based on SCAG's growth projections, which are based, in part, on the general plans of cities located within the SCAG region. Therefore, if the level of housing related to the proposed Project is consistent with the applicable assumptions used in the development of the AQMP, the proposed Project would not jeopardize attainment of the air quality levels identified in the AQMP.

Consistency Criterion No. 2 refers to the California Ambient Air Quality Standards. An impact would occur if the long-term emissions associated with the proposed Project would exceed SCAQMD's regional significance thresholds for operation-phase emissions.

Construction

Short-term construction-generated emissions of criteria air pollutants and ozone precursors from development of the proposed Project were assessed in accordance with methods recommended by SCAQMD. The proposed Project's regional emissions were modeled using the California Emissions Estimator Model (CalEEMod), as recommended by SCAQMD. CalEEMod was used to determine whether short-term construction-related emissions of criteria air pollutants would exceed applicable regional thresholds and where mitigation would be required. Modeling was based on Project-specific data and predicted short-term construction-generated emissions were compared with applicable SCAQMD regional thresholds for determination of significance.

In addition, to determine whether or not construction activities associated with development of the proposed Project would create significant adverse localized air quality impacts on nearby sensitive receptors, the worst-case daily emissions contribution from the proposed Project were compared to SCAQMD's LSTs that are based on the pounds of emissions per day that can be generated by a project without causing or contributing to adverse localized air quality impacts. The daily total onsite combustion, mobile, and fugitive dust emissions associated with construction were evaluated against SCAQMD's LSTs as appropriate for each activity.

For construction activity, DPM is the primary toxic air contaminant emitted. Construction emissions rates for PM_{10} (DPM) were calculated from the CalEEMod construction emissions modeling conducted for the proposed Project's Air Quality Assessment and air dispersion modeling was performed. The results were then compared to the SCAQMD's recommended thresholds.

Operations

Long-term (i.e., operational) regional emissions of criteria air pollutants and precursors, including mobile- and area-source emissions from the proposed Project, were also quantified using the CalEEMod computer model. Area-source emissions were modeled according to the size and type of the land uses proposed. Mass mobile-source emissions were modeled based on the increase in daily vehicle trips that would result from the proposed Project. Trip generation rates were available from the traffic impact analysis prepared for the proposed Project (see Appendix O of this Supplemental Draft EIR). Predicted long-term operational emissions were compared with applicable SCAQMD thresholds for determination of significance.

5.1.6 ENVIRONMENTAL IMPACTS

Summary of Impacts Identified in the GPU FEIR

The GPU FEIR addressed air quality impacts on pages 5.2-45 through 5.2-72. The GPU FEIR determined that the GPU is inconsistent with the South Coast Air Quality Management Plan (AQMP) because buildout under the GPU would exceed the population estimates assumed for the AQMP and would cumulatively contribute to the nonattainment designations of the South Coast Air Basin (SoCAB). Air pollutant emissions associated with buildout of the GPU would cumulatively contribute to the nonattainment designations in the SoCAB. The GPU FEIR included Mitigation Measure AQ-2; however, due to the magnitude and scale of the land uses that would be developed, no mitigation measures are available that would reduce operation and construction impacts below South Coast AQMD thresholds. Therefore, the GPU FEIR determined that impacts related to the AQMP, and air quality emissions would remain significant and unavoidable.

The GPU FEIR also determined that construction activities associated with buildout of the GPU could generate short-term emissions that exceed the South Coast AQMD'S significance thresholds during this time and cumulatively contribute to the nonattainment designations of the SoCAB. Implementation of Mitigation Measure AQ-1 would reduce criteria air pollutant emissions from construction-related activities to the extent feasible. However, the GPU FEIR determined that construction time frames and equipment for site-specific development projects have a potential for multiple development projects to be constructed at one time, resulting in significant construction-related emissions. Thus, impacts were determined to be significant and unavoidable.

In addition, the GPU FEIR determined that buildout of the GPU would generate long-term emissions that exceed the daily South Coast AQMD thresholds for VOC, NOx, and CO. Emissions of VOC and NOX are precursors to the formation of O_3. In addition, NOx is a precursor to the formation of particulate matter (PM_{10} and $PM_{2.5}$). Therefore, emissions of VOC and NOx that exceed the South Coast AQMD regional significance thresholds would contribute to the O_3 and particulate matter (PM_{10} and $PM_{2.5}$) nonattainment designation of the SoCAB. Therefore, operational air quality impacts associated with the GPU were determined to be significant and unavoidable.

The GPU FEIR also determined that because existing sensitive receptors may be close to project-related construction activities and large emitters of onsite operation-related criteria air pollutant emissions, construction and operation emissions generated by individual development projects have the potential to exceed South Coast AQMD's Local Significance Thresholds (LSTs). The GPU FEIR describes that Mitigation Measures AQ-1 and AQ-2 would reduce the regional construction and operation emissions associated with buildout of the GPU and therefore also result in a reduction of localized construction- and operation-related criteria air pollutant emissions, to the extent feasible. However, even with the implementation of these mitigation measures, impacts would remain significant and unavoidable.

The GPU FEIR also describes that buildout of the GPU could expose sensitive receptors to substantial concentrations of toxic air contaminants (TAC). Mitigation Measure AQ-3 was included to ensure mobile sources of TACs not covered under South Coast AQMD permits are considered during subsequent, project-level environmental review by the City of Santa Ana. The GPU FEIR describes that individual development projects would be required to meet the incremental risk thresholds established by South Coast AQMD, with implementation of Mitigation Measure AQ-3, and TACs would be less than significant at the project level but would result in a cumulative contribution to health risk that is significant and unavoidable. The GPU FEIR determined that the GPU land uses are not anticipated to produce odors, and Mitigation Measure AQ-4 would ensure that odor impacts are minimized, and facilities would comply with South Coast AQMD Rule 402. Thus, impacts related to odors were determined to be less than significant.

Proposed Specific Plan Project

IMPACT AQ-1: THE PROJECT WOULD RESULT IN A CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN.

Significant and Unavoidable Impact. The SCAQMD's 2022 AQMP, which was adopted on December 2, 2022, is the applicable air quality plan for the City of Santa Ana. Pursuant to Consistency Criterion No. 1, the SCAQMD AQMP is the applicable air quality plan for the proposed Project. Projects that are consistent with the regional population, housing, and employment forecasts identified by SCAG are considered to be consistent with the AQMP growth projections, since the forecast assumptions by SCAG forms the basis of the land use and transportation control portions of the AQMP. Additionally, because SCAG's regional growth forecasts are based upon, among other things, land uses designated in general plans and specific plans, a project that is consistent with the land use designated in a general plan would also be consistent with the SCAG's regional forecast projections, and thus also with the AQMP growth projections.

The Project site is located within the GPU South Bristol Street Focus Area and has a GPU designation of District Center-High (DC-5), which has a maximum FAR of 5.0, or 125 dwelling units per acre (du/ac) and a maximum height of 25 stories that allows up to 8,733,780 SF of mixed uses, inclusive of residential uses, within the Project site. The GPU was adopted in April 2022 and went into effect on May 26, 2022, prior to the SCAQMD 2022 AQMP.

The District Center designation includes the major activity areas of the City of Santa Ana, designed to serve as anchors to the City's commercial corridors and to accommodate major development activity. District Center-High is a mixed-use designation identified in the General Plan as including "Transit-oriented and high-density urban villages consisting of visually striking and dynamic buildings and spaces with a wide range and mix of residential, live-work, commercial, hotel, and employment-generating uses."

The Project proposes a new mixed-use development that would result in a FAR of 2.7, which is below the DC-5 allowable FAR of 5.0. The proposed mix of residential, commercial, hotel, senior living, and open space would be consistent with the General Plan DC-5 land use designation; and the FAR of 2.7 would be within the anticipated General Plan buildout. Thus, the growth related to the proposed Project is consistent with the AQMP. As shown on Table 5.10-8 (Section 5.10 Population and Housing), the Project buildout of 9,238 residents would be 48 percent of the GPU FEIR buildout for the South Bristol Street Focus Area, and population growth from the proposed Project would not exceed the growth identified in the GPU FEIR. Also, as shown on Table 5.10-9 (Section 5.10 Population and Housing), the proposed Project would result in a total of 1,092 employees at buildout and full occupancy. These employees would consist of approximately 14 percent of the GPU projected increase in employment from buildout of the South Bristol Street Focus Area. Therefore, employment growth from buildout of the proposed Project would not exceed the growth identified in the GPU FEIR. Therefore, the proposed Project would be within and consistent with SCAG's growth projections, and within the growth assumptions of the AQMP. Thus, the proposed Project would comply with AQMD AQMP Consistency Criterion No. 1.

In addition, implementing redevelopment of the site, the proposed Project would utilize existing infrastructure such as roadways, drainage, sewer, water, and other infrastructure, and would be consistent with the SCAG objective to "Encourage patterns of urban development and land use that reduce costs in infrastructure construction and make better use of existing facilities." As a result, the proposed Project would comply with Consistency Criterion No. 1 listed above in the Methodology Section.

Regarding Consistency Criterion No. 2, which evaluates the potential of the proposed Project to increase the frequency or severity of existing air quality violations; as described previously, an impact related to Consistency Criterion No. 2 would occur if the long-term emissions associated with the proposed Project would exceed SCAQMD's regional significance thresholds for operation-phase emissions. As detailed below in Impact AQ-2, construction and operation of the proposed Project would exceed the threshold of significance

for emissions of NOx and ROG. Although GPU FEIR Mitigation Measure AQ-1 requires the off-road construction equipment greater than 50 horsepower to meet CARB Tier 4 Final emissions standards, and Project specific Mitigation Measure AQ-1 provides for construction exhaust and dust controls, construction emissions associated with NOx would remain above the SCAQMD's threshold.

Also, as detailed below, Mitigation Measure AQ-3 requires a Transportation Demand Management (TDM), Mitigation Measure AQ-4 prohibits fireplaces, and Mitigation Measure AQ-6 requires the Project to use "Super-Compliant" low VOC paints to reduce operational ROG emissions. However, ROG emissions during operation of the Project at buildout would remain above the SCAQMD's threshold. There are no feasible mitigation measures that would reduce NOx and ROG emissions to below the SCAQMD thresholds. Therefore, the proposed Project would result in an impact related to Consistency Criterion No. 2. As a result, impacts related to consistency with the AQMP would be significant and unavoidable. This is consistent with the impacts identified in the GPU FEIR.

Overall, despite the proposed Project's consistency with SCAG's regional growth forecasts and the GPU buildout of the South Bristol Street Focus Area per the DC-5 designation, the proposed Project would lead to increased regional air quality operational emissions that would exceed thresholds. Therefore, the proposed Project would result in a conflict with, or obstruct, implementation of the AQMP and impacts would be significant and unavoidable after implementation of mitigation measures that are detailed below. This finding is consistent with the findings of the GPU FEIR related to criteria emissions.

IMPACT AQ-2: THE PROJECT WOULD RESULT IN A CUMULATIVELY CONSIDERABLE NET INCREASE OF A CRITERIA POLLUTANT FOR WHICH THE PROJECT REGION IS IN NON-ATTAINMENT UNDER AN APPLICABLE FEDERAL OR STATE AMBIENT AIR QUALITY STANDARD.

Construction

Significant and Unavoidable Impact. Construction activities associated with the proposed Project would occur in phases and result in emissions of CO, VOCs, NOx, SOx, PM_{10}, and $PM_{2.5}$. Pollutant emissions associated with construction would be generated from the following: (1) demolition, grading, and excavation; (2) construction workers traveling to and from the Project site; (3) delivery and hauling of construction supplies to, and debris and soils export from, the Project site; (4) fuel combustion by onsite construction equipment; (5) building construction; application of architectural coatings; and paving. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. However, construction activities would be limited to the hours between 7:00 am to 8:00 pm, Monday through Saturday, excluding federal holidays, per Municipal Code Section 18-314, Special Provisions, with exception to some concrete pour activities that could occur in the evening or early morning pursuant to specific construction permitting for the activity.

The construction phasing for the proposed Project is planned to be implemented over a period of approximately nine years. Construction of Phase 1 is planned to commence in the first quarter of 2026 with completion in the first quarter of 2030 (approximately 42 months). Phase 2 is expected to commence construction in the second quarter of 2030 with completion in the fourth quarter of 2032 (approximately 44 months). Phase 3 is planned to commence construction in the first quarter of 2033 with completion in the second quarter of 2036 (approximately 40 months). Phase 1 includes an export of approximately 640,550 cubic yards (cy) and an import of approximately 5,000 cy. Phase 2 includes an export of approximately 214,906 cy and an import of approximately 2,000 cy; and Phase 3 includes an export of approximately 484,869 cy and import of approximately 3,000 cy. The maximum daily construction emissions were estimated using CalEEMod; and the modeling includes compliance with SCAQMD Rules 403, 431.2, 1113, and 1186 / 1186.1 (described above), which are requirements that would reduce air contaminants during construction.

Construction Phase 1. Table 5.1-8 provides the maximum daily unmitigated emissions of criteria air pollutants from construction of Phase 1 of the proposed Project and shows that SCAQMD thresholds would be exceeded for NOx and ROG (VOC). The majority of NOx emissions occur from construction equipment exhaust from the excavation, grading, and soils export/import needed for the underground parking that is included within the Phase 1 construction. The majority of ROG emissions would be generated during the architectural coatings phase of construction.

Table 5.1-8: Maximum Peak Unmitigated Phase 1 Construction Emissions

Construction Year	Emissions (Maximum Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Year 2026	20.42	312.60	272.02	1.21	62.19	19.19
Year 2027	18.00	100.28	286.37	0.36	61.94	16.43
Year 2028	17.40	96.06	274.90	0.36	61.72	16.23
Year 2029	131.30	91.06	239.20	0.36	61.57	16.10
Year 2030	131.20	6.72	34.53	0.01	10.30	2.46
Offsite Improvements	3.17	29.09	35.60	0.07	4.27	1.74
Total Maximum Emissions	**131.30**	**312.60**	**286.37**	**1.21**	**62.19**	**19.19**
SCAQMD Threshold	75	100	550	150	150	55
Exceed SCAQMD Threshold?	**Yes**	**Yes**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

However, the GPU FEIR Mitigation Measure AQ-1 requires the off-road construction equipment greater than 50 horsepower to meet CARB Tier 4 Final emissions standards in order to reduce diesel exhaust construction emissions. Project specific Mitigation Measure AQ-2 requires the proposed Project to use "Super-Compliant" low VOC paints to reduce ROG emissions to less than significant levels. Table 5.1-9 shows that despite the implementation of mitigation, construction emissions associated with NOx during Phase 1 of construction would remain above the SCAQMD's threshold. Therefore, criteria emissions impacts related to construction of Phase 1 would be significant and unavoidable.

Table 5.1-9: Maximum Peak Mitigated Phase 1 Construction Emissions

Construction Year	Emissions (Maximum Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Year 2026	14.87	158.10	225.96	0.96	60.20	14.84
Year 2027	12.87	52.72	240.47	0.28	60.19	14.83
Year 2028	12.50	51.27	229.02	0.28	60.19	14.83
Year 2029	24.27	48.32	193.52	0.28	60.19	14.83
Year 2030	24.20	3.30	29.81	0.00	10.24	2.40
Offsite Improvements	2.31	10.08	47.53	0.08	3.39	0.93
Total Maximum Emissions	**24.27**	**158.10**	**240.47**	**0.96**	**60.20**	**14.84**
SCAQMD Threshold	75	100	550	150	150	55
Exceed SCAQMD Threshold?	**No**	**Yes**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Construction Phase 2. Table 5.1-10 provides the maximum daily unmitigated emissions of criteria air pollutants from construction of Phase 2 of the proposed Project and shows that SCAQMD thresholds would be exceeded for ROG and NOx from construction equipment exhaust and architectural coatings, respectively.

Table 5.1-10: Maximum Peak Unmitigated Phase 2 Construction Emissions

Construction Year	Emissions (Maximum Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 2030	17.60	**151.33**	173.53	0.36	17.08	11.25
Year 2031	11.77	93.18	176.09	0.27	16.88	5.93
Year 2032	**127.92**	59.64	126.85	0.20	17.55	5.18
SCAQMD Threshold	75	100	550	150	150	55
Exceed SCAQMD Threshold?	**Yes**	**Yes**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

However, GPU FEIR Mitigation Measure AQ-1 for CARB Tier 4 Final off-road construction equipment standards and Project Mitigation Measure AQ-2 requiring use of "Super-Compliant" low VOC paints would be required to be implemented reduce ROG and NOx emissions to less than significant levels, as shown in Table 5.1-11. Therefore, criteria emissions impacts related to construction of Phase 2 would be less than significant with incorporation of mitigation.

Table 5.1-11: Maximum Peak Mitigated Phase 2 Construction Emissions

Construction Year	Emissions (Maximum Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 2030	1.34	26.03	66.82	0.20	11.80	5.56
Year 2031	4.58	25.40	99.22	0.14	14.56	3.81
Year 2032	27.75	22.84	83.72	0.11	16.49	4.21
SCAQMD Threshold	75	100	550	150	150	55
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Construction Phase 3. Table 5.1-12 provides the maximum daily unmitigated emissions of criteria air pollutants from construction of Phase 3 of the proposed Project and shows that SCAQMD thresholds would be exceeded for NOx and ROG (VOC). Consistent with Phase 1, the majority of NOx emissions would occur from construction equipment exhaust and the majority of ROG emissions would be generated during the architectural coatings phase of construction.

Table 5.1-12: Maximum Peak Unmitigated Phase 3 Construction Emissions

Construction Year	Emissions (Maximum Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Year 2033	16.57	**188.71**	190.30	0.91	40.42	13.43
Year 2034	19.47	**181.23**	271.93	0.91	93.32	23.38
Year 2035	19.30	85.67	291.78	0.44	93.24	23.31
Year 2036	**121.86**	89.87	297.01	0.45	109.27	27.04
SCAQMD Threshold	75	100	550	150	150	55
Exceed SCAQMD Threshold?	**Yes**	**Yes**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Consistent with Phase 2 construction, GPU FEIR Mitigation Measure AQ-1 for CARB Tier 4 Final off-road construction equipment standards and Project Mitigation Measure AQ-2 requiring use of "Super-Compliant" low VOC paints would be required to be implemented reduce ROG and NOx emissions to less than significant levels, as shown in Table 5.1-13. Therefore, criteria emissions impacts related to construction of Phase 3 would be less than significant with incorporation of mitigation.

Table 5.1-13: Maximum Peak Mitigated Phase 3 Construction Emissions

Construction Year	Emissions (Maximum Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Year 2033	2.85	86.39	109.62	0.66	37.12	9.62
Year 2034	16.01	83.56	233.59	0.66	92.48	22.61
Year 2035	15.93	55.26	253.90	0.37	92.47	22.61
Year 2036	38.25	57.50	254.98	0.37	108.54	26.37
SCAQMD Threshold	75	100	550	150	150	55
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Operation

Less than Significant with Mitigation Incorporated. Implementation of the proposed Project would result in long-term emissions of criteria air pollutants from area sources generated by the proposed commercial and residential uses, such as vehicular emissions, natural gas consumption, landscaping, applications of architectural coatings, and use of consumer products.

Operation Phase 1. The emissions from the proposed Project are primarily from vehicle trips. As described in Section 5.14, *Transportation*, the Phase 1 portion of the proposed Project would generate 4,167 "net" daily trips, with 545 "net" trips in the AM peak hour and 359 "net" trips in the PM peak hour on a "typical" weekday.

Table 5.1-14: Unmitigated Phase 1 Increase in Operational Emissions

Source	Emissions (Maximum Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Total Existing Phase 1 Area Emissions	60.38	29.01	291.11	0.51	45.79	2.34
Phase 1 Generated Emissions						
Mobile Emissions	44.84	26.96	294.74	0.75	29.96	5.62
Area Source Emissions	77.10	1.57	177.45	0.01	0.15	0.20
Energy Emissions	0.45	7.90	4.69	0.05	0.62	0.62
Phase 1 Total Emissions	**122.39**	**36.43**	**476.88**	**0.81**	**30.73**	**6.44**
Net Emissions	**62.01**	**7.42**	**185.78**	**0.30**	**-15.06**	**4.10**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**Yes**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

As shown, emissions from operation of Phase 1 of the proposed Project would exceed the thresholds of significance for ROG. The GPU EIR Mitigation Measure AQ-2 requires electrical hookups for refrigerated delivery trucks. Additionally, Project Mitigation Measures AQ-3 through AQ-6 have been included to reduce operational emissions. Mitigation Measure AQ-3 requires the implementation of a Transportation Demand

Management (TDM) program to reduce single occupant vehicle trips and encourage transit. Mitigation Measure AQ-4 prohibits the use of permanent wood-burning devices (consistent with SCAQMD Rule 445), and Mitigation Measure AQ-5 requires all landscaping equipment used on site to be 100 percent electrically powered. Mitigation Measure AQ-6 requires the implementation of "Super-Compliant" low VOC paint during operational maintenance.

Table 5.1-15 identifies that with implementation of mitigation, emissions would be reduced to below SCAQMD thresholds. Therefore, Phase 1 operational emissions would be less than significant with incorporation of mitigation.

Table 5.1-15: Mitigated Phase 1 Increase in Operational Emissions

Source	Emissions (Maximum Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Total Existing Phase 1 Area Emissions	60.38	29.01	291.11	0.51	45.79	2.34
Phase 1 Generated Emissions						
Mobile Emissions	38.87	22.83	247.90	0.62	24.84	4.66
Area Source Emissions	51.14	0.00	0.00	0.00	0.00	0.00
Energy Emissions	0.41	7.25	4.37	0.05	0.57	0.57
Phase 1 Total Emissions	**90.42**	**30.08**	**252.27**	**0.67**	**25.41**	**5.23**
Net Emissions	**30.04**	**1.07**	**-38.83**	**0.16**	**-20.38**	**2.89**
SCAQMD Threshold	*55*	*55*	*550*	150	150	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Operation Phase 2. Similar to Phase 1, Project-generated emissions from operation of Phase 2 would be primarily associated with motor vehicle use and area sources, such as the use of landscape maintenance equipment and architectural coatings. Phase 2 is smaller in size than Phase 1. Phase 2 is forecast to generate 3,241 "net" daily trips, with 293 "net" trips in the AM peak hour and 271 "net" trips in the PM peak hour on a "typical" weekday. Table 5.1-16 shows that the Phase 2 unmitigated operational emissions would be below the SCAQMD thresholds for all criteria pollutants. Therefore, operational emissions for Phase 2 would result in a less than significant impact.

Table 5.1-16: Unmitigated Phase 2 Increase in Operational Emissions

Source	Emissions (Maximum Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Total Existing Phase 2 Area Emissions	9.41	8.46	43.57	39.84	1.54	0.35
Phase 2						
Mobile Emissions	14.69	8.90	103.84	0.28	11.76	2.18
Area Source Emissions	32.70	0.71	80.15	0.00	0.06	0.08
Energy Emissions	0.15	2.51	1.11	0.02	0.20	0.20
Phase 2 Total Emissions	**47.54**	**12.12**	**185.10**	**0.30**	**12.02**	**2.46**
Net Emissions	**38.13**	**3.66**	**141.53**	**-39.54**	**10.48**	**2.11**
SCAQMD Threshold	*55*	*55*	*550*	150	150	*55*
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Operation Phase 3. Similar to Phase 1 and Phase 2, Project-generated emissions from operation of Phase 3 would be primarily associated with motor vehicle use and area sources, such as the use of landscape maintenance equipment and architectural coatings. Phase 3 of the proposed Project is forecast to result in a reduction of 80 fewer "net" daily trips than the existing development on the site; with 381 "net" fewer trips in the AM peak hour and 58 "net" fewer trips in the PM peak hour on a "typical" weekday. Table 5.1-17 shows that Phase 3 unmitigated operational emissions would be below the SCAQMD thresholds for all criteria pollutants. Therefore, operational emissions for Phase 3 would result in a less than significant impact.

Table 5.1-17: Unmitigated Phase 3 Increase in Operational Emissions

Source	Emissions (Maximum Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Total Existing Emissions	45.60	21.91	219.86	0.38	7.79	1.77
Phase 3						
Mobile Emissions	18.72	11.81	145.76	0.41	17.69	3.27
Area Source Emissions	51.58	1.18	132.84	0.01	0.09	0.12
Energy Emissions	1.26	21.52	9.25	0.14	1.74	1.74
Phase 3 Total Emissions	**71.56**	**34.52**	**287.85**	**0.55**	**19.52**	**5.13**
Net Emissions	**25.96**	**12.61**	**68.00**	**0.17**	**11.72**	**3.36**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Overlapping Construction and Operation Emissions

Significant and Unavoidable Impact. As the proposed Project would be constructed in phases, it is likely that portions of the proposed Project would be operational during phases of construction. Pollutant emissions from construction and operational activities would combine to exceed daily thresholds for ROG and NOx, as detailed below.

Phase 1 Operations + Phase 2 Construction. Phase 1 has the potential to be operational during Phase 2 construction. The overlapping emissions of Phase 1 operations and Phase 2 construction are listed in Table 5.1-18, which shows that these overlapping emissions would exceed SCAQMD thresholds for ROG and NOx and that Mitigation Measures AQ-1 through AQ-6 would be required.

Table 5.1-18: Unmitigated Overlapping Emissions - Phase 1 Operations + Phase 2 Construction

Source	Emissions (Maximum Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Phase 1 Operations	62.01	7.42	185.78	0.30	-15.06	4.10
Phase 2 Construction	127.92	151.33	176.09	0.36	17.55	11.25
Total Unmitigated Overlapping Emissions	**189.93**	**158.75**	**361.87**	**0.66**	**2.49**	**15.34**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**Yes**	**Yes**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Table 5.1-19 shows that overlapping emissions would continue to exceed SCAQMD thresholds for ROG after implementation of Mitigation Measures AQ-1 through AQ-6. The majority of the proposed Project's ROG emission exceedances are from consumer products that the City cannot control emissions of; and therefore, cannot feasibly be reduced below the SCAQMD thresholds. As a result, impacts from overlapping emissions of Phase 1 operations and Phase 2 construction would be significant and unavoidable.

Table 5.1-19: Mitigated Overlapping Emissions - Phase 1 Operations + Phase 2 Construction

Source	Emissions (Maximum Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Phase 1 Operations	30.04	1.07	-38.83	0.16	-20.38	2.89
Phase 2 Construction	27.75	26.03	99.22	0.20	16.49	5.56
Total Mitigated Overlapping Emissions	**57.79**	**27.10**	**60.39**	**0.35**	**-3.89**	**8.45**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**Yes**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Phase 1 Operations + Phase 2 Operations + Phase 3 Construction. Phase 1 and Phase 2 have the potential to be operational during Phase 3 construction. The overlapping emissions of Phase 1 and Phase 2 operations and Phase 3 construction are listed in Table 5.1-20, which shows that these overlapping emissions would exceed SCAQMD thresholds for ROG, NOx, and CO and that Mitigation Measures AQ-1 through AQ-6 would be required.

Table 5.1-20: Unmitigated Overlapping Emissions - Phases 1 and 2 Operations + Phase 3 Construction

Source	Emissions (Maximum Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Phase 1 Operations	62.01	7.42	185.78	0.30	-15.06	4.10
Phase 2 Operations	38.13	3.66	141.53	-39.54	10.48	2.11
Phase 3 Construction	121.86	188.71	297.01	0.91	109.27	27.04
Total Unmitigated Overlapping Emissions	**222.01**	**199.79**	**624.31**	**-38.33**	**104.69**	**33.25**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**Yes**	**Yes**	**Yes**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Table 5.1-21 shows that overlapping emissions would continue to exceed SCAQMD thresholds for ROG and NOx after implementation of Mitigation Measures AQ-1 through AQ-6. As detailed previously, the majority of the proposed Project's emission exceedances are from consumer product and mobile sources and cannot feasibly be reduced below the SCAQMD thresholds. Emissions from motor vehicles are controlled by state and federal standards and the City and proposed Project have no control over these standards. Therefore, impacts from overlapping emissions of Phases 1 and 2 operations and Phase 3 construction would be significant and unavoidable.

Table 5.1-21: Mitigated Overlapping Emissions - Phases 1 and 2 Operations + Phase 3 Construction

Source	Emissions (Maximum Pounds Per Day)					
	ROG	NO_X	CO	SO_2	PM_{10}	$PM_{2.5}$
Phase 1 Operations	30.04	1.07	-38.83	0.16	-20.38	2.89
Phase 2 Operations	24.36	0.70	37.51	-39.61	7.57	1.49
Phase 3 Construction	38.25	86.39	254.98	0.66	108.54	26.37
Total Unmitigated Overlapping Emissions	**92.64**	**88.15**	**253.66**	**-38.79**	**95.73**	**30.75**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**Yes**	**Yes**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Buildout Operational Emissions

Significant and Unavoidable Impact. The mitigated operational emissions from Phase 1, Phase 2, Phase 3 combined are provided in Table 5.1-22, which shows that after implementation of Mitigation Measures AQ-

1 through AQ-6 the net increase in operational emissions from the proposed Project at buildout would exceed thresholds for ROG. As detailed previously, ROG emissions are generated from consumer products, the emissions of which are not controlled by either the City or the applicant. Therefore, operational air quality impacts would remain significant and unavoidable after implementation of mitigation.

Table 5.1-22: Mitigated Project Buildout Operational Emissions

Source	Emissions (Maximum Pounds Per Day)					
	ROG	**NO_X**	**CO**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
Existing Operational Emissions						
Phase 1 Existing	60.38	29.01	291.11	0.51	45.79	2.34
Phase 2 Existing	9.41	8.46	43.57	39.84	1.54	0.35
Phase 3 Existing	45.60	21.91	219.86	0.38	7.79	1.77
Total Existing Operational Emissions	**115.38**	**59.38**	**554.53**	**40.73**	**55.13**	**4.46**
Proposed Project Operational Emissions						
Phase 1 Operations	90.42	30.08	252.27	0.67	25.41	5.23
Phase 2 Operations	33.76	9.16	81.08	0.23	9.12	1.84
Phase 3 Operations	51.49	27.72	114.08	0.42	14.30	3.90
Total Project Operational Emissions	**175.67**	**66.95**	**447.43**	**1.31**	**48.83**	**10.97**
Net Operational Emissions	**60.28**	**7.57**	**-107.10**	**-39.42**	**-6.30**	**6.51**
SCAQMD Threshold	55	55	550	150	150	55
Exceeds Threshold?	**Yes**	**No**	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Health Impacts of Exceeded Criteria Pollutant Emissions. The significant and unavoidable impact with respect to NOx emissions is due largely to vehicle trips. NOx is a "criteria" pollutant, a pollutant that is regulated by the USEPA pursuant to the Federal Clean Air Act. The potential health impacts of criteria pollutants are analyzed on a regional level, not on a facility/project level. The SCAQMD and the San Joaquin Valley Unified Air Pollution Control District (SJVAPD), experts in the area of air quality, both recognize that a meaningful, accurate analysis of potential health impacts resulting from criteria pollutants is not currently possible and not likely to yield substantive information that promotes informed decision making. The SJVAPD, in its amicus curiae brief for the recent California Supreme Court decision in *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, explained that "it is not feasible to conduct a [health impact analysis] for criteria air pollutants because currently available computer modeling tools are not equipped for this task." The SJVAPD described a project-specific health impact analysis as "not practicable and not likely to yield valid information" because "currently available modeling tools are not well suited for this task." The SJVAPD further noted that "…the CEQA air quality analysis for criteria pollutants is not really a localized, project-level impact analysis but one of regional" cumulative impacts.

It should also be noted that CO, NOx, and ROG are "precursor" pollutants, which makes analysis of potential health impacts even more difficult. CO, NOx, and ROG are precursors to ozone, which is formed in the atmosphere from the chemical reaction of CO, NOx, and ROG in the presence of sunlight. As explained by the SCAQMD in its amicus curiae brief for *Sierra Club v. County of Fresno*, it takes time and the influence of meteorological conditions for these reactions to occur, so ozone may be formed at a distance downwind from the sources." Given this, "…it takes a large amount of additional precursor emissions to cause a modeled increase in ambient ozone levels over an entire region." Therefore, SCAQMD opined that while it "may be feasible" for large, regional projects with very high emissions of CO, NOx, and ROG to conduct an accurate health impact analysis, SCAQMD staff does not currently know of a way to accurately quantify ozone-related health impacts caused by CO, NOx, or ROG emissions from relatively small projects.

Thus, the difficulties with preparing potential health impact analysis related to the proposed Project's CO, NOx, and ROG emissions are twofold. First, current modeling is not capable of correlating emissions of

criteria pollutants to concentrations that can be reasonably linked to specific health impacts. Second, CO, NOx, and ROG are precursor emissions and concentrations of CO, NOx, and ROG are impacted by regional atmospheric conditions. CO, NOx, and ROG emitted by the proposed Project may, depending upon interactions with the sun and other emissions, convert to ozone by complex chemical processes. Thus, there is a significant level of unpredictability associated with such conversion to ozone, as noted by the SCAQMD and the SJVAPD. It should also be noted that this Draft Supplemental EIR does identify health concerns related to CO and NOx emissions. Table 5.1-1 includes a list of criteria pollutants and summarizes common sources and effects. Thus, this Draft Supplemental EIR's analysis is reasonable and intended to foster informed decision making.

IMPACT AQ-3: THE PROJECT WOULD NOT EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS.

Localized Construction Emissions

Less than Significant with Mitigation Incorporated. As described previously, the daily construction emissions generated onsite by the proposed Project are evaluated against SCAQMD's LSTs to determine whether the emissions would cause or contribute to adverse localized air quality impacts. The nearest offsite sensitive receptor to the Phase 1 construction area is a multi-family residential building located approximately 130 feet (40 meters) to the west. The nearest offsite sensitive receptor to the Phase 2 construction area is a multi-family residential building located 410 feet (125 meters) to the north. The nearest offsite sensitive receptor to the Phase 3 construction area is a multi-family residential building located 130 feet (40 meters) to the west.

Construction Phase 1. The SCAQMD LST methodology provides thresholds for projects with boundaries located 25, 50, 100, 200, and 500 meters away and projects disturbing 1-, 2-, and 5-acres in size. The nearest receptor is 40 meters away and construction of Phase 1 is estimated to grade a maximum of 4 acres per day. Therefore, LSTs for receptors at 40 meters were interpolated. Table 5.1-23 identifies daily localized onsite emissions that are estimated to occur during construction of Phase 1 of the proposed Project. As shown, emissions during the peak site preparation and grading construction activity of Phase 1 would exceed the SCAQMD's localized significance thresholds for NOx and $PM_{2.5}$.

Table 5.1-23: Summary of Phase 1 Unmitigated Localized Construction Emissions

Construction Activity	Emissions (Maximum Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Demolition	123.91	114.03	20.59	7.01
Site Preparation	**174.98**	172.85	17.68	**12.11**
Grading	**163.35**	165.42	11.61	**8.11**
Building Construction (2026)	59.12	77.80	2.27	2.09
Building Construction (2027)	56.35	77.63	2.02	1.86
Building Construction (2028)	53.55	77.61	1.80	1.66
Building Construction (2029)	51.49	77.41	1.65	1.52
Paving	38.75	59.51	1.43	1.32
Architectural Coating (2029)	4.76	6.67	0.08	0.07
Architectural Coating (2030)	4.71	6.64	0.07	0.06
Offsite Improvements	29.09	35.6	4.27	1.74
SCAQMD Localized Screening Threshold (for 4.0 acres at 40 meters)	154	1,331	24	7
Exceed SCAQMD Threshold?	**Yes**	**No**	**No**	**Yes**

Source: Air Quality Assessment, Appendix B.

However, as described previously GPU FEIR Mitigation Measure AQ-1 for CARB Tier 4 Final off-road construction equipment standards would reduce NOx emissions and Project Mitigation Measure AQ-1, Construction Exhaust and Dust Control, would reduce $PM_{2.5}$ emissions to below the SCAQMD thresholds for localized significance, as shown in Table 5.1-24. Therefore, LST impacts from construction of Phase 1 would be less than significant with incorporation of mitigation.

Table 5.1-24: Summary of Phase 1 Mitigated Localized Construction Emissions

Construction Activity	Emissions (Maximum Pounds Per Day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Demolition	9.01	36.35	15.66	2.48
Site Preparation	5.18	56.62	10.42	5.45
Grading	8.85	70.70	5.13	2.16
Building Construction (2026)	8.80	31.74	0.28	0.26
Building Construction (2027)	8.78	31.73	0.27	0.26
Building Construction (2028)	8.76	31.72	0.27	0.26
Building Construction (2029)	8.75	31.72	0.27	0.26
Paving	3.87	21.20	0.06	0.06
Architectural Coating (2029)	1.29	1.93	0.00	0.00
Architectural Coating (2030)	1.29	1.93	0.00	0.00
Offsite Improvements	10.08	47.53	3.39	0.93
SCAQMD Localized Screening Threshold (for 4.0 acres at 40 meters)	154	1,331	24	7
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Construction Phase 2. As the nearest offsite sensitive receptor to the Phase 2 construction area is a multi-family residential building located 410 feet (125 meters) to the north and the nearest onsite receptors (Phase 1 residences) would be approximately 40 meters away. The LST threshold for a distance of 40 meters was interpolated and used in the analysis. Also, construction of Phase 2 is estimated to grade a maximum of 3.5 acres per day. Table 5.1-25 identifies daily localized onsite emissions that are estimated to occur during construction of Phase 2 of the proposed Project. As shown, emissions during the peak site preparation and grading construction activity of Phase 2 would exceed the SCAQMD's localized significance thresholds for NOx and $PM_{2.5}$.

Table 5.1-25: Summary of Phase 2 Unmitigated Localized Construction Emissions

Construction Activity	Emissions (Maximum Pounds Per Day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Demolition	108.75	112.04	12.71	5.24
Site Preparation	**151.25**	170.59	16.62	**11.14**
Grading	75.70	104.07	6.79	4.62
Building Construction (2031)	48.71	77.07	1.46	1.34
Building Construction (2032)	47.22	76.72	1.34	1.24
Paving (2030)	37.68	59.37	1.32	1.22
Paving (2031)	36.75	59.30	1.26	1.16
Architectural Coating	4.62	6.60	0.05	0.04
SCAQMD Localized Screening Threshold (for 3.5 acres at 40 meters)	144	1,226	21	7
Exceed SCAQMD Threshold?	**Yes**	**No**	**No**	**Yes**

Source: Air Quality Assessment, Appendix B.

However, as described previously GPU FEIR Mitigation Measure AQ-1 for CARB Tier 4 Final off-road construction equipment standards would reduce NOx emissions and Project Mitigation Measure AQ-1, Construction Exhaust and Dust Control, would reduce $PM_{2.5}$ emissions to below the SCAQMD thresholds for localized significance, as shown in Table 5.1-26. Therefore, LST impacts from construction of Phase 2 would be less than significant with incorporation of mitigation.

Table 5.1-26: Summary of Phase 2 Mitigated Localized Construction Emissions

Construction Activity	Emissions (Maximum Pounds Per Day)			
	NO_X	**CO**	**PM_{10}**	**$PM_{2.5}$**
Demolition	9.01	36.35	8.53	1.40
Site Preparation	5.18	56.62	10.42	5.45
Grading	4.08	35.53	3.82	1.90
Building Construction (2031)	13.82	38.30	0.35	0.32
Building Construction (2032)	13.75	38.28	0.33	0.31
Paving (2030)	3.87	21.20	0.06	0.06
Paving (2031)	3.87	21.20	0.06	0.06
Architectural Coating	1.29	1.93	0.00	0.00
SCAQMD Localized Screening Threshold (for 3.5 acres at 40 meters)	144	1,226	21	7
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Construction Phase 3. As the nearest offsite sensitive receptor to the Phase 3 construction area is a multi-family residential building located 130 feet (40 meters) to the west of the Project site. The nearest onsite receptors (Phase 1 and 2 residences) would be approximately 40 meters away. Thus, the LST threshold for a distance of 40 meters was interpolated and used in the analysis. Also, construction of Phase 3 is estimated to grade a maximum of 4 acres per day. Table 5.1-27 identifies daily localized onsite emissions that are estimated to occur during construction of Phase 3 of the proposed Project. As shown, emissions during the peak construction activity of site preparation during Phase 3 would exceed the SCAQMD localized significance threshold for $PM_{2.5}$.

Table 5.1-27: Summary of Phase 3 Unmitigated Localized Construction Emissions

Construction Activity	Emissions (Maximum Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Demolition	93.05	95.60	18.36	5.42
Site Preparation	127.02	146.29	15.40	**10.01**
Grading (2033)	111.18	151.37	9.22	5.96
Grading (2034)	106.52	150.41	8.89	5.65
Building Construction (2034)	45.12	76.60	1.15	1.06
Building Construction (2035)	44.02	76.12	1.08	0.99
Building Construction (2036)	42.73	75.62	1.01	0.93
Paving	35.13	58.94	1.06	0.98
Architectural Coating	4.51	6.58	0.03	0.03
SCAQMD Localized Screening Threshold (for 4.0 acres at 40 meters)	154	1,331	24	7
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**Yes**

Source: Air Quality Assessment, Appendix B.

However, as described previously Project Mitigation Measure AQ-1, Construction Exhaust and Dust Control, would be implemented, and would reduce $PM_{2.5}$ emissions to below the SCAQMD thresholds for localized significance, as shown in Table 5.1-28. Therefore, LST impacts from construction of Phase 3 would be less than significant with incorporation of mitigation.

Table 5.1-28: Summary of Phase 3 Mitigated Localized Construction Emissions

Construction Activity	Emissions (Maximum Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Demolition	9.01	36.35	15.05	2.39
Site Preparation	5.18	56.62	10.42	5.45
Grading (2033)	8.85	70.70	5.07	2.15
Grading (2034)	8.85	70.70	5.07	2.15
Building Construction (2034)	13.65	38.25	0.31	0.29
Building Construction (2035)	13.61	38.25	0.31	0.29
Building Construction (2036)	13.57	38.25	0.30	0.28
Paving	3.87	21.20	0.06	0.06
Architectural Coating	1.29	1.93	0.00	0.00
SCAQMD Localized Screening Threshold (for 4.0 acres at 40 meters)	154	1,331	24	7
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Localized Operational Emissions

Less than Significant with Mitigation Incorporated.

Operation Phase 1. The LSTs thresholds for receptors located at 40 meters in SRA 17 were utilized in this LST analysis. The closest offsite receptors to the Phase 1 area are approximately 130 feet (40 meters) to the northwest and the closest onsite receptors would be located approximately 130 feet (40 meters) away. Although the Phase 1 area of the Project site is approximately 19.6 acres, the 5-acre LST threshold was conservatively used. The LSTs thresholds increase with the size of the site. Therefore, use of the 5-acre threshold for the 19.6-acre site provides a more conservative criteria for identification of potential impacts.

Table 5.1-29 identifies daily localized onsite emissions that are estimated to occur during operation of Phase 1 of the proposed Project. As shown, emissions during operation of Phase 1 would not exceed LST thresholds; and therefore, would not expose sensitive receptors to pollutant concentrations, and impacts would be less than significant.

Table 5.1-29: Summary of Phase 1 Unmitigated Localized Operation Emissions

Activity	Emissions (Maximum Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Total Onsite Emissions	9.47	182.14	0.77	0.82
SCAQMD Localized Screening Threshold (adjusted for 5 acres at 40 meters)	173.4	1,541.6	7.2	2.43
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Operation Phase 2. The LSTs thresholds for receptors located at 40 meters in SRA 17 were utilized in this analysis of Phase 2 operations. The closest offsite receptor to the Phase 2 area is located approximately 410 feet (125 meters) to the north and the closest onsite receptors would be located approximately 130 feet (40 meters) away. Although the Phase 2 area of the Project site is approximately 7.2 acres, the 5-acre LST threshold was conservatively used for Phase 2.

Table 5.1-30 identifies daily localized onsite emissions that are estimated to occur during operation of Phase 2 of the proposed Project. As shown, emissions during operation of Phase 2 would not exceed LST thresholds; and therefore, would not expose sensitive receptors to pollutant concentrations, and impacts would be less than significant.

Table 5.1-30: Summary of Phase 2 Unmitigated Localized Operation Emissions

Activity	Emissions (Maximum Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Total Onsite Emissions	3.22	81.26	0.26	0.28
SCAQMD Localized Screening Threshold (for 5 acres at 40 meters)	173.4	1,541.6	7.2	2.43
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Operation Phase 3. The LSTs thresholds for receptors located at 40 meters in SRA 17 were utilized in this analysis of Phase 3 operations because the closest offsite and onsite receptors to the Phase 3 area are located approximately 130 feet (40 meters) to both the east and west. Although the Phase 3 area of the Project site is approximately 14.3 acres, the 5-acre LST threshold was conservatively used for Phase 3.

Table 5.1-31 identifies daily localized onsite emissions that are estimated to occur during operation of Phase 3 of the proposed Project. As shown, emissions during operation of Phase 3 would not exceed LST thresholds; and therefore, would not expose sensitive receptors to pollutant concentrations, and impacts would be less than significant.

Table 5.1-31: Summary of Phase 3 Unmitigated Localized Operation Emissions

Activity	Emissions (Maximum Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Total Onsite Emissions	22.71	142.09	1.83	1.86
SCAQMD Localized Screening Threshold (for 5 acres at 40 meters)	173.40	1,541.60	7.20	2.43
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

Operation at Project Buildout. Table 5.1-32 shows the combined operational emissions for the entire proposed Project at 130-foot (40 meter) distance. In addition, emissions from the 41.13-acre site were compared against the 5-acre LST threshold. Applying a 5-acre LST threshold is a very conservative approach. As shown in Table 5.1-32, unmitigated emissions generated on site by the proposed Project would exceed the LST threshold for $PM_{2.5}$. Therefore, operational mitigation would be required.

Table 5.1-32: Localized Significance of Operational Unmitigated Emissions at Project Buildout

Emissions Source	Emissions (Maximum Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Operation of Phase 1	9.47	182.14	0.77	0.82
Operation of Phase 2	3.22	81.26	0.26	0.28
Operation of Phase 3	22.71	142.09	1.83	1.86
Total	**35.40**	**405.49**	**2.86**	**2.96**
SCAQMD Localized Screening Threshold (adjusted for 5 acres at 40 meters)	173.40	1,541.60	7.20	2.43
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**Yes**

Source: Air Quality Assessment, Appendix B.

As shown on Table 5.1-33, with implementation of operational mitigation measures that prohibit fireplaces, require use of electrical landscape equipment, and use of low VOC paints, $PM_{2.5}$ emissions would be reduced to a less than significant level. Therefore, LST impacts of Project buildout would be less than significant with incorporation of mitigation.

Table 5.1-33: Localized Significance of Operational Mitigated Emissions at Project Buildout

Emissions Source	Emissions (Maximum Pounds Per Day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
Operation of Phase 1	7.25	4.37	0.57	0.57
Operation of Phase 2	2.23	0.99	0.18	0.18
Operation of Phase 3	19.10	8.22	1.54	1.54
Total	**28.58**	**13.58**	**2.29**	**2.29**
SCAQMD Localized Screening Threshold (adjusted for 5 acres at 40 meters)	173.40	1,541.60	7.20	2.43
Exceed SCAQMD Threshold?	**No**	**No**	**No**	**No**

Source: Air Quality Assessment, Appendix B.

This analysis includes separate construction and operational analysis for LSTs and does not include an analysis of overlapping construction and operational activities related to LST emissions because LSTs are based on location, distance, and site size. Construction and operational localized emissions would occur at different locations and different distances from sensitive receptors, as analyzed previously. Due to air dispersion, pollution concentrations would be different from sources at two different distances from a receptor. The LSTs are screening thresholds are conservative as the construction LST acreage is based on the maximum potential daily acreage disturbed at the closest potential receptor, while the operational LST acreage is based on the total area of the Project site. Although the Project site is greater than 41.13-acres, the 5-acre operational LSTs have been conservatively used to evaluate the proposed Project. This methodology concentrates the emissions of the entire site into 5-acres and then compares it to the threshold for the closest sensitive receptor, which identifies a maximum potential impact. In addition, SCAQMD has developed separate LSTs for construction and operations. Construction emissions are temporary and move around onsite and operational emissions are stationary. Due to the differences in nature between construction and operational emissions sources as well as differences in distances to receptors, and separate thresholds, construction and operational LSTs are evaluated separately at maximum conditions.

Friant Ranch Case

In December 2018, in the case of *Sierra Club v. County of Fresno* (2018) 6 Cal.5th 502, California Supreme Court held that an EIR's air quality analysis must meaningfully connect the identified air quality impacts to the human health consequences of those impacts, or meaningfully explain why that analysis cannot be provided. As noted in the *Brief* of Amicus Curiae by the SCAQMD in the Friant Ranch case (April 6, 2015, Appendix 10.1), SCAQMD has among the most sophisticated air quality modeling and health impact evaluation capability of any of the air districts in the State, and thus it is uniquely situated to express an opinion on how lead agencies should correlate air quality impacts with specific health outcomes.

The SCAQMD discusses that it may be infeasible to quantify health risks caused by projects similar to the proposed Project, due to many factors. It is necessary to have data regarding the sources and types of air toxic contaminants, location of emission points, velocity of emissions, the meteorology and topography of the area, and the location of receptors (worker and residence). The *Brief* states that it may not be feasible to perform a health risk assessment for airborne toxics that will be emitted by a generic industrial building that was built on "speculation" (i.e., without knowing the future tenant(s). Even where a health risk assessment can be prepared, however, the resulting maximum health risk value is only a calculation of risk - it does not necessarily mean anyone will contract cancer as a result of the proposed Project. The *Brief* also cites the author of the CARB methodology, which reported that a $PM_{2.5}$ methodology is not suited for small projects and may yield unreliable results. Similarly, SCAQMD staff does not currently know of a way to accurately quantify O_3-related health impacts caused by NO_X or ROG emissions from relatively small projects, due to photochemistry and regional model limitations. The *Brief* concludes, with respect to the Friant Ranch EIR, that although it may have been technically possible to plug the data into a methodology, the results would not have been reliable or meaningful.

On the other hand, for extremely large regional projects (unlike the proposed Project), the SCAQMD states that it has been able to correlate potential health outcomes for very large emissions sources – as part of their rulemaking activity, specifically 6,620 lbs/day of NO_X and 89,180 lbs/day of ROG were expected to result in approximately 20 premature deaths per year and 89,947 school absences due to O_3.

The proposed Project does not generate anywhere near 6,620 lbs/day of NO_X or 89,190 lbs/day of VOC emissions. As shown previously on Table 5.1-22, the peak operational emissions of the proposed Project at buildout would generate a net increase of 7.57 lbs/day of NO_X (0.1 percent of 6,620 lbs/day). The ROG emissions would be a maximum of 60.28 lbs/day of during operations (0.07 percent of 89,190 lbs/day).

Therefore, the emissions are not sufficiently high enough to use a regional modeling program to correlate health effects on a Basin-wide level. Notwithstanding, this evaluation does evaluate the proposed Project on CO, NO_X, PM_{10}, and $PM_{2.5}$ by comparing the onsite emissions to the SCAQMD's applicable LST thresholds. In addition, a Health Risk Assessment was prepared, which is discussed below. As described previously, the proposed Project would not result in emissions that exceeded the SCAQMD's LSTs. Therefore, the emissions would not be expected to exceed the most stringent applicable federal or state ambient air quality standards for emissions of CO, NO_X, PM_{10}, and $PM_{2.5}$.

Diesel Health Risk Assessment

A Health Risk Assessment, included as Appendix C, was prepared to evaluate the health risk impacts as a result of exposure to Diesel Particulate Matter (DPM) during construction of the proposed Project. Onsite truck idling was estimated to occur as trucks enter and travel through the site. Although the proposed construction activities are required to comply with CARB's idling limit of 5 minutes, SCAQMD recommends that the onsite idling emissions should be estimated for 15 minutes of truck idling, which takes into account onsite idling that occurs while the trucks are waiting to check-in, travel to destination onsite, and/or check-out, etc. As such, this analysis estimated truck idling at 15 minutes, consistent with SCAQMD's recommendation.

SCAQMD recommends using a 10 in one million as the cancer risk threshold. A risk level of 10 in one million implies a likelihood that up to 10 people, out of one million equally exposed people would contract cancer if exposed continuously (24 hours per day) to the levels of toxic air contaminants over a specified duration of time.

Construction

Less than Significant with Mitigation Incorporated. Construction would generate DPM emissions from the use of off-road diesel equipment required for demolition, grading and excavation, paving, and other construction activities. For construction activity, DPM is the primary toxic air contaminant of concern because it is the most potent TAC emitted from construction and includes hundreds of chemicals. Although DPM is a subset of PM_{10} exhaust, this analysis conservatively assumes all PM_{10} exhaust emissions are DPM. On-road diesel-powered haul trucks traveling to and from the construction area to deliver materials and equipment were included in the analysis, although they are typically less of a concern because they would not stay on the site for long durations. Diesel exhaust from construction equipment operating at the site potentially poses a health risk to nearby sensitive receptors. The closest sensitive receptors to the Project site are residences across South Plaza Drive to the west and across MacArthur Boulevard to the northwest.

Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer. The use of diesel-powered construction equipment would be episodic and would occur throughout the Project site. Construction activities would limit idling to no more than five minutes, pursuant to CARB standards, which would further reduce nearby sensitive receptors' exposure to temporary and variable DPM emissions. Furthermore, even during the most intense period of construction, emissions of DPM would be generated from different locations on the Project site rather than in a single location because different types of construction activities (e.g., site preparation and building construction) would not occur at the same place at the same time.

The receptor with the greatest potential exposure to construction DPM source emissions are the closest residences, which are as close as 130 feet from construction activities. Using AERMOD, the closest residential and worker locations with the highest emission concentrations were identified. Table 5.1-34 shows that DPM levels would be reduced below SCAQMD thresholds for residential and worker receptors with implementation of GPU FEIR Mitigation Measure AQ-1 for CARB Tier 4 Final off-road construction equipment standards. Thus, construction DPM carcinogenic risks would be reduced to a less than significant level with incorporation of mitigation.

Table 5.1-34: Construction Diesel Particulate Matter Carcinogenic Risk

Exposure Scenario	Unmitigated Cancer Risk (Risk per Million)[1]	Mitigated Cancer Risk (Risk per Million)[1]	Significance Threshold (Risk per Million)	Exceeds Significance Threshold?
Offsite Residential Receptors				
Phase 1 MEIR (residences at the southwestern terminus of Orion Road) (700 feet northeast of Phase 1)	21.70	2.51	10	No
Versailles residences near the western terminus of Callen's Common (130 feet west of the Project site/Phase 1/Phase 3)	37.61	4.27	10	No
Phase 2 MEIR (residences along the south side of MacArthur Boulevard, approximately 360 feet east of Bristol Street (460 feet east of the Project site/Phase 2)	15.65	3.11	10	No
Phase 3 MEIR (at the northwest corner of MacArthur Boulevard and South Plaza Drive (292 feet northwest of the Project site)	6.80	1.24	10	No
Onsite Residential Receptors[2]				
Phase 1 Onsite MEIR (during Phase 2 and Phase 3 construction) at the northeast corner of Phase 1 (130 feet from Phase 2)	8.49	2.15	10	No
Phase 2 Onsite MEIR (during Phase 3 construction) at the northwest corner of Phase 2 (130 feet from Phase 3)	23.91	2.64	10	No
Recreational Receptors				
Bomo Koral Park[3]	5.24	0.63	10	No
Worker Receptors				
Northeast corner of MacArthur Boulevard and South Plaza Drive	6.66	1.15	10	No

Source: Health Risk Analysis, Appendix C.

[1] The reported risk is at the closest receptor (maximally exposed individual resident (MEIR)). The maximum cancer risk is based on worst-case exposure and combines all three phases over the entire construction period and uses 95th percentile breathing rates.

[2] California Code of Regulations (CCR) Title 24 Part 6 requires new development to use MERV 13 air filtration on space conditioning systems and ventilation systems that provide outside air to the occupiable space of a dwelling. A MERV 13 filter has a particle removal efficiency in the range of 80 to 90 percent. An 80 percent removal efficiency was conservatively used for the purposes of this study. According to the U.S. EPA's Exposure Factor Handbook (2011), on average, people spend 90 percent of their time indoors. As residents are not always indoors, the filtration's overall effectiveness accounts for the time spent outdoors, which equates to approximately three hours per day. It is noted that this is a conservative assumption for this Project, as all of the time spent outdoors would not occur at the Project site.

[3] The risk calculations at the park conservatively assume residential exposure parameters (i.e., age sensitivity factors, third trimester start age, 350 days per year exposure duration, 100 percent fraction of time at home, and 95th percentile breathing rates for third trimester to age 2 and 80th percentile breathing rates for ages 2 and greater.

The significance thresholds for DPM exposure also require an evaluation of non-cancer risk known as hazard index. Non-cancer chronic impacts are calculated by dividing the annual average concentration by the REL for that substance. The REL is defined as the concentration at which no adverse non-cancer health effects are anticipated. According to the Office of Environmental Health Hazard Assessment (OEHHA), the REL for DPM is 5 and the target organ is the respiratory system. RELs are designed to protect sensitive receptors.

A chronic hazard index of 1.0 is considered individually significant. The hazard index is calculated by dividing the chronic exposure by the reference exposure level. As shown on Table 5.1-35, the highest maximum chronic hazard index at offsite receptors during construction would be 0.003, with implementation of GPU FEIR Mitigation Measure AQ-1 for CARB Tier 4 Final off-road construction equipment standards, which is less than the 1.0 threshold. Therefore, impacts related to non-carcinogenic hazards would be less than significant with incorporation of mitigation.

Table 5.1-35: Construction Diesel Particulate Matter Chronic Hazard Index

Scenario	Concentration (µg/m³) at Maximally Exposed Individual Receptor	Chronic Hazard
Unmitigated		
Onsite Residents	0.255	0.051
Offsite Residents/Park	0.072	0.014
Offsite Workers	0.142	0.028
Mitigated		
Onsite Residents	0.028	0.006
Offsite Residents/Park	0.018	0.004
Offsite Workers	0.015	0.003
SCAQMD Threshold		1.0
Threshold Exceeded?		**No**

Source: Health Risk Analysis, Appendix C.

Operation

Less than Significant Impact. The proposed Project is a mixed-use development that includes residential, senior living, hotel, and commercial uses. The proposed Project would not include any stationary TAC sources. The OEHHA *Hot Spots Program Guidance Manual for the Preparation of Risk Assessments* (OEHHA Guidance Manual) addresses health risks from airborne contaminants released by stationary sources. Stationary sources are typically industrial-type uses that emit TACs[2] and are regulated by and/or require permits from the Air Districts. Examples of stationary sources include metal finishing/manufacturing, chrome plating facilities, various product manufacturing (e.g., food, chemical, material, etc.), stationary diesel engines (e.g., emergency backup generators), and refineries.[3] Project operations would not include any of the industrial uses listed and would not include stationary sources that emits TACs. The proposed Project also does not include a warehouse or distribution facility. Therefore, impacts related to operational DPM source emissions would be less than significant.

CO Hotspots

Less than Significant Impact. An adverse CO concentration, known as a "hot spot", would occur if an exceedance of the state one-hour standard of 20 ppm or the eight-hour standard of 9 ppm were to occur. In 2003, the SCAQMD estimated that a project would have to increase traffic volumes at a single intersection by more than 44,000 vehicles per hour—or 24,000 vehicles per hour where vertical and/or horizontal air does not mix—in order to generate a CO hot spot.

As detailed in Section 5.13, *Transportation*, at buildout, the proposed Project would result in a net increase of 1,219 trips in the AM peak hour and 688 trips in the PM peak hour. The Traffic Study prepared for the proposed Project identifies that the Project study area key roadway segments with the highest peak hour

2 "Toxic air contaminant" means 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. See Health and Safety Code Section 39655.

3 CARB and CAPCOA, *Risk Management Guidance for Stationary Sources*, July 2015, Section I.D, page 5 and Appendix A, Table A-1: Statewide ARB Air Toxics Regulations for Stationary Sources. Available at: https://ww2.arb.ca.gov/sites/default/files/classic/toxics/rma/rmgssat.pdf

volume are Bristol Street and MacArthur Boulevard. As shown on Table 5.1-36, the highest volume is on MacArthur Boulevard, between Main Street and SR-55 SB Ramps that would have an AM peak hour segment volume of 3,177 in year 2045 without the proposed Project; and an AM peak hour segment volume of 3,427 in year 2045 with the proposed Project. This is much lower than 44,000 vehicles per hour and is not high enough to generate a CO "hot spot" per SCAQMD. Therefore, impacts related to CO "hot spots" from operation of the proposed Project would be less than significant.

Table 5.1-36: Year 2045 Key Roadway Segment Traffic Volumes

Key Roadway Segment	Peak Hour	Direction	Without Project Segment Volume	With Project Segment Volume
Bristol Street, between Segerstrom Avenue and MacArthur Boulevard	AM	NB	1,240	1,378
		SB	1,620	1,654
	PM	NB	3,226	3,249
		SB	1,310	1,374
Bristol Street, between MacArthur Boulevard and Callen's Common	AM	NB	1,042	1,188
		SB	2,618	2,486
	PM	NB	2,778	2,742
		SB	1,806	1,883
Bristol Street, between Callen's Common and Sunflower Avenue	AM	NB	1,091	1,154
		SB	2,346	2,574
	PM	NB	2,773	2,772
		SB	1,688	1,733
Bristol Street, between I-405 NB Ramps and I-405 SB Ramps	AM	NB	2,178	2,240
		SB	3,055	3,396
	PM	NB	3,017	3,125
		SB	3,658	3,768
MacArthur Boulevard, between Main Street and SR-55 SB Ramps	AM	EB	3,177	3,427
		WB	2,718	2,785
	PM	EB	2,821	2,886
		WB	2,826	2,956
MacArthur Boulevard, between SR-55 SB Ramps and SR-55 NB Ramps	AM	EB	3,078	3,271
		WB	1,763	1,786
	PM	EB	1,902	1,958
		WB	2,615	2,698

Source: Traffic Study, Appendix O.

IMPACT AQ-4: THE PROJECT WOULD NOT RESULT IN OTHER EMISSIONS (SUCH AS THOSE LEADING TO ODORS) ADVERSELY AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE.

Less Than Significant Impact. The proposed Project would not emit other emissions, such as those generating objectionable odors, that would affect a substantial number of people. The threshold for odor is identified by SCAQMD Rule 402, Nuisance, which states:

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

The type of facilities that are considered to result in other emissions, such as objectionable odors, include wastewater treatments plants, compost facilities, landfills, solid waste transfer stations, fiberglass

manufacturing facilities, paint/coating operations (e.g., auto body shops), dairy farms, petroleum refineries, asphalt batch plants, chemical manufacturing, and food manufacturing facilities.

The proposed Project would remove the existing commercial buildings and develop the site with new mixed use that would include residential, open space/recreation, retail, restaurant, and other commercial development. These land uses do not involve the types of uses that would emit objectionable odors affecting a substantial number of people. In addition, odors generated by non-residential land uses are required to be in compliance with SCAQMD Rule 402, which would prevent nuisance odors.

During construction, emissions from construction equipment, architectural coatings, and paving activities may generate odors. However, these odors would be temporary, intermittent in nature, limited to the City's allowable construction hours, and would not affect a substantial number of people. Any odors would be confined to the immediate vicinity of the construction equipment. Also, the short-term construction-related odors would cease upon the drying or hardening of the odor-producing materials.

In addition, all Project-generated solid waste would be stored in covered containers and removed at regular intervals in compliance with solid waste regulations and would not generate objectionable odors. Therefore, impacts associated with other operation- and construction-generated emissions, such as odors, would be less than significant.

5.1.7 CUMULATIVE IMPACTS

As described previously, per SCAQMD's methodology, if an individual project would result in air emissions of criteria pollutants that exceeds the SCAQMD's thresholds for project-specific impacts, then it would also result in a cumulatively considerable net increase of these criteria pollutants.

As described in Impact AQ-2 above, mitigated emissions from construction would exceed regional thresholds for NOx, and mitigated overlapping construction and operational activities would result in exceedance of regional thresholds for ROG and NOx. Also, mitigated regional operational emissions of ROG would exceed thresholds at buildout of the proposed Project. The large majority of operational-source NOx emissions (by weight) would be generated by vehicle emissions that neither Project applicants nor the City have the ability to reduce. The majority of the proposed Project's ROG emission exceedances are from use of consumer products that the City cannot control emissions of; and therefore, cannot feasibly be reduced below the SCAQMD thresholds. As a result, NOx and ROG emissions from implementation of the proposed Project would be cumulatively considerable, and cumulative air quality impacts would be significant and unavoidable.

5.1.8 EXISTING STANDARD CONDITIONS AND PLANS, PROGRAMS, OR POLICIES

Plans, Program and Policies

The following Plans, Programs, and Policies (PPP) related to air quality are incorporated into the proposed Project and would reduce impacts related to air quality. These actions will be included in the proposed Project's mitigation monitoring and reporting program (MMRP):

PPP AQ-1: Rule 403. The following measures shall be incorporated into construction plans and specifications as implementation of Rule 403:

- All clearing, grading, earth-moving, or excavation activities shall cease when winds exceed 25 mph per SCAQMD guidelines in order to limit fugitive dust emissions.

- The contractor shall ensure that all disturbed unpaved roads and disturbed areas within the proposed Project are watered at least three (3) times daily during dry weather. Watering, with complete coverage of disturbed areas, shall occur at least three times a day, preferably in the mid-morning, afternoon, and after work is done for the day.
- The contractor shall ensure that traffic speeds on unpaved roads and Project site areas are reduced to 15 miles per hour or less.

PPP AQ-2: Rule 1113. The following measure shall be incorporated into construction plans and specifications as implementation of Rule 1113. The proposed Project shall only use "Low-Volatile Organic Compounds (VOC)" paints (no more than 50 gram/liter of VOC) consistent with SCAQMD Rule 1113.

PPP AQ-3: Rule 445. The following measure shall be incorporated into construction plans and specifications as implementation of Rule 445. Wood burning stoves and fireplaces shall not be included or used in the new development.

PPP AQ-4: CALGreen Building Standards MERV 13 Filters. Indoor air quality within mechanically ventilated buildings shall comply with Section 5.504.5.3 (Filters) of the California Green Building Standards Code Part 11 that requires utilization of at least a Minimum Efficiency Reporting Value (MERV) of 13 air filtration systems. The Code requires MERV 13 filters to be installed prior to occupancy and replaced and/or maintained as directed by the manufacturer.

5.1.9 LEVEL OF SIGNIFICANCE BEFORE MITIGATION

Impacts AQ-1, AQ-2, and AQ-3 would be potentially significant.

Upon implementation of regulatory requirements Impact AQ-4 would be less than significant.

5.1.10 MITIGATION MEASURES

GPU FEIR Mitigation Measures

GPU FEIR MM AQ-1: Prior to discretionary approval by the City of Santa Ana for development projects subject to CEQA (California Environmental Quality Act) review (i.e., non-exempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project construction-related air quality impacts to the City of Santa Ana for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology for assessing air quality impacts. If construction-related criteria air pollutants are determined to have the potential to exceed the South Coast AQMD's adopted thresholds of significance, the City of Santa Ana shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during construction activities. These identified measures shall be incorporated into all appropriate construction documents (e.g., construction management plans) submitted to the City and shall be verified by the City. Mitigation measures to reduce construction-related emissions could include, but are not limited to:

- Require fugitive-dust control measures that exceed South Coast AQMD's Rule 403, such as:
  - Use of nontoxic soil stabilizers to reduce wind erosion.
  - Apply water every four hours to active soil-disturbing activities.
  - Tarp and/or maintain a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
- Use construction equipment rated by the United States Environmental Protection Agency as having Tier 3 (model year 2006 or newer) or Tier 4 (model year 2008 or newer) emission limits, applicable for engines between 50 and 750 horsepower.

- Ensure that construction equipment is properly serviced and maintained to the manufacturer's standards.
- Limit nonessential idling of construction equipment to no more than five consecutive minutes.
- Limit onsite vehicle travel speeds on unpaved roads to 15 miles per hour.
- Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area. Use Super-Compliant VOC paints for coating of architectural surfaces whenever possible. A list of Super- Compliant architectural coating manufactures can be found on the South Coast AQMD's website.

Proposed Project Applicability: Mitigation Measure AQ-1 is applicable to the proposed Project and an Air Quality Assessment has been completed and provided in Appendix B.

GPU FEIR MM AQ-2: Prior to discretionary approval by the City of Santa Ana for development projects subject to CEQA (California Environmental Quality Act) review (i.e., non-exempt projects), project applicants shall prepare and submit a technical assessment evaluating potential project operation phase-related air quality impacts to the City of Santa Ana for review and approval. The evaluation shall be prepared in conformance with South Coast Air Quality Management District (South Coast AQMD) methodology in assessing air quality impacts. If operation-related air pollutants are determined to have the potential to exceed the South Coast AQMD's adopted thresholds of significance, the City of Santa Ana shall require that applicants for new development projects incorporate mitigation measures to reduce air pollutant emissions during operational activities. The identified measures shall be included as part of the conditions of approval. Possible mitigation measures to reduce long-term emissions could include, but are not limited to the following:

- For site-specific development that requires refrigerated vehicles, the construction documents shall demonstrate an adequate number of electrical service connections at loading docks for plug-in of the anticipated number of refrigerated trailers to reduce idling time and emissions.
- Applicants for manufacturing and light industrial uses shall consider energy storage and combined heat and power in appropriate applications to optimize renewable energy generation systems and avoid peak energy use.
- Site-specific developments with truck delivery and loading areas and truck parking spaces shall include signage as a reminder to limit idling of vehicles while parked for loading/unloading in accordance with California Air Resources Board Rule 2845 (13 CCR Chapter 10 § 2485).
- Provide changing/shower facilities as specified in Section A5.106.4.3 of the CALGreen Code (Nonresidential Voluntary Measures).
- Provide bicycle parking facilities per Section A4.106.9 (Residential Voluntary Measures) of the CALGreen Code and Sec. 41-1307.1 of the Santa Ana Municipal Code.
- Provide preferential parking spaces for low-emitting, fuel-efficient, and carpool/van vehicles per Section A5.106.5.1 of the CALGreen Code (Nonresidential Voluntary Measures).
- Provide facilities to support electric charging stations per Section A5.106.5.3 (Nonresidential Voluntary Measures) and Section A5.106.8.2 (Residential Voluntary Measures) of the CALGreen Code.
- Applicant-provided appliances (e.g., dishwashers, refrigerators, clothes washers, and dryers) shall be Energy Star–certified appliances or appliances of equivalent energy efficiency. Installation of Energy Star– certified or equivalent appliances shall be verified by Building & Safety during plan check.
- Applicants for future development projects along existing and planned transit routes shall coordinate with the City of Santa Ana and Orange County Transit Authority to ensure that bus pad and shelter improvements are incorporated, as appropriate.

Proposed Project Applicability: Mitigation Measure AQ-2 is applicable to the proposed Project and an Air

Quality Assessment has been completed and provided in Appendix B.

GPU FEIR MM AQ-3: Prior to discretionary approval by the City of Santa Ana, 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, or nursing homes), 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 of Santa Ana 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 South Coast Air Quality Management District and shall include all applicable stationary and mobile/area source emissions generated by the proposed project at the project site. If the HRA shows that the incremental cancer risk and/or noncancer hazard index exceed the respective thresholds, as established by the South Coast AQMD at the time a project is considered (i.e., 10 in one million cancer risk and 1 hazard index), the project applicant will be required to identify and demonstrate that best available control technologies for toxics (T-BACTs), including appropriate enforcement mechanisms, are capable of reducing potential cancer and noncancer risks to an acceptable level. T-BACTs may include, but are not limited to, restricting idling onsite, electrifying warehousing docks to reduce diesel particulate matter, or requiring use of newer equipment and/or vehicles. T BACTs identified in the HRA shall be identified as mitigation measures in the environmental document and/or incorporated into the site plan.

Proposed Project Applicability: Mitigation Measure AQ-3 is not applicable to the proposed Project because it does not include any new industrial or warehousing development.

GPU FEIR MM AQ-4: Prior to discretionary approval by the City of Santa Ana, if it is determined that a development project has the potential to emit nuisance odors beyond the property line, an odor management plan shall be prepared by the project applicant and submitted to the City of Santa Ana for review and approval. Facilities that have the potential to generate nuisance odors include, but are not limited to:

- Wastewater treatment plants
- Composting, green waste, or recycling facilities
- Fiberglass manufacturing facilities
- Painting/coating operations
- Large-capacity coffee roasters
- Food-processing facilities

The odor management plan shall demonstrate compliance with the South Coast Air Quality Management District's Rule 402 for nuisance odors. The Odor Management Plan shall identify the best available control technologies for toxics (T-BACTs) that will be utilized to reduce potential odors to acceptable levels, including appropriate enforcement mechanisms. T-BACTs may include but are not limited to scrubbers (i.e., air pollution control devices) at the industrial facility. T-BACTs identified in the odor management plan shall be identified as mitigation measures in the environmental document prepared for the development project and/or incorporated into the project's site plan.

Proposed Project Applicability: Mitigation Measure AQ-4 is not applicable to the proposed Project because it does not include any new uses that would generate nuisance odors.

Proposed Specific Plan Project Mitigation Measures

Mitigation Measure AQ-1: Construction Exhaust and Dust Control. Prior to issuance of Phase 1, Phase 2, and Phase 3 grading permits, the Project Applicant shall prepare and submit documentation to the City of Santa Ana Building and Safety Division that demonstrates the following:

- Require fugitive-dust control measures that exceed SCAQMD Rule 403 requirements:
    - Apply water at least three times daily to active soil-disturbing activities.
    - Tarp and/or maintain a minimum of 24 inches of freeboard on trucks hauling dirt, sand, soil, or other loose materials.
    - Limit onsite vehicle travel speeds on unpaved roads to 15 miles per hour.
    - Install wheel washers for all exiting trucks or wash off all trucks and equipment leaving the project area.
- All off-road diesel-powered construction equipment greater than 50 horsepower meets California Air Resources Board Tier 4 Final off-road emissions standards. Requirements for Tier 4 Final equipment shall be included in applicable bid documents and successful contractor(s) must demonstrate the ability to supply such equipment. A copy of each equipment's Best Available Control Technology (BACT) documentation (certified tier specification or model year specification), and CARB or SCAQMD operating permit (if applicable) shall be provided to the City at the time of mobilization of each applicable unit of equipment.
- Construction equipment shall be properly maintained according to manufacturer specifications. All equipment maintenance records and data sheets, including design specifications and emission control tier classifications shall be kept onsite and furnished to the lead agency or other regulators upon request.
- All construction equipment and delivery vehicles shall be turned off when not in use, or limit onsite idling for no more than 5 minutes in any 1 hour.
- Onsite electrical hook ups to a power grid shall be provided for electric construction tools including saws, drills, and compressors, where feasible, to reduce the need for diesel powered electric generators. Construction contracts shall require all off-road equipment with a power rating below 19 kilowatts (25 horsepower) (e.g., plate compactors, pressure washers, etc.) used during project construction be battery powered.
- Prepare a construction traffic control plan detailing the locations of equipment staging areas, material stockpiles, proposed road closures, and hours of construction operations, and designing the plan to minimize impacts to roads frequented by passenger cars, pedestrians, bicyclists, and other non-truck traffic.
- Provide information on transit and ridesharing programs and services to construction employees.

Mitigation Measure AQ-2: Low VOC Paint (Construction). Construction plans, specifications, and permitting shall require that during construction, the Project shall use "Super-Compliant" low VOC paints which have been reformulated to exceed the regulatory VOC limits (i.e., have a lower VOC content than what is required) put forth by SCAQMD's Rule 1113 for all architectural coatings. Super-Compliant low VOC paints shall be no more than 10g/L of VOC. Prior to issuance of building permits, the City of Santa Ana shall confirm that plans include the following specifications:

- All architectural coatings will be Super-Compliant low VOC paints.
- Recycle leftover paint. Take any leftover paint to a household hazardous waste center; do not mix leftover water-based and oil-based paints.

- Keep lids closed on all paint containers when not in use to prevent VOC emissions and excessive odors.
- For water-based paints, clean up with water only. Whenever possible, do not rinse the cleanup water down the drain or pour it directly into the ground or the storm drain. Set aside the can of cleanup water and take it to the hazardous waste center (www.cleanup.org).
- Use compliant low-VOC cleaning solvents to clean paint application equipment.
- Keep all paint- and solvent-laden rags in sealed containers to prevent VOC emissions.
- Contractors shall construct/build with materials that do not require painting and use pre-painted construction materials to the extent practicable.
- Use high-pressure/low-volume paint applicators with a minimum transfer efficiency of at least 50 percent or other application techniques with equivalent or higher transfer efficiency.

Mitigation Measure AQ-3: Vehicle Trip Reduction. Develop a qualifying Commute Trip Reduction (CTR)/ Transportation Demand Management (TDM) plan to reduce mobile GHG emissions for all uses. The TDM plan shall be approved by the City of Santa Ana prior to the issuance of building permits. The TDM plan shall discourage single-occupancy vehicle trips and encourage alternative modes of transportation such as carpooling, taking transit, walking, and biking. The following measures shall be incorporated into the TDM plan.

TDM Requirements for Non-Residential Uses:

- The Project Applicant shall consult with the local transit service provider to maintain and identify opportunities to maximize transit. Evidence of compliance with this requirement may include correspondence from the local transit provider(s) regarding the potential need for installing bus shelters or bus stops at the site.
- The portion of the TDM plan for non-residential uses shall include, but not be limited to the following potential measures: ride-matching assistance, preferential carpool parking, flexible work schedules for carpools, half-time transportation coordinators, providing a web site or message board for coordinating rides, designating adequate passenger loading and unloading and waiting areas for ride-sharing vehicles, and including bicycle end of trip facilities (such as bicycle parking and changing/shower facilities). This list may be updated as new methods become available. Verification of this measure shall occur prior to building permit issuance for the commercial uses.

TDM Requirements for Residential Units:

- Rental Units. Upon a residential dwelling being rented or offered for rent, the Project Applicant shall notify and offer to the tenant or prospective tenant, materials describing public transit, ridesharing, and nonmotorized commuting opportunities in the vicinity of the development. The materials shall be approved by the City of Santa Ana. The materials shall be provided no later than the time the rental agreement is executed. This information shall be submitted to the City of Santa Ana Planning Division for review and approval, prior to the issuance of the first certificate of occupancy.

Mitigation Measure AQ-4: Prohibition of Fireplaces. The installation of wood-burning and natural gas devices shall be prohibited inside residential dwelling units. The purpose of this measure is to limit emissions of ROG, NO_X, and particulate matter emissions from wood-burning and natural gas devices used for primary heat, supplemental heat, or ambiance. This prohibition shall be noted on the deed and/or lease agreements for tenants to obey.

Mitigation Measure AQ-5: Electric Landscape Equipment. Prior to the issuance of occupancy permits, the Planning Division shall confirm that the proposed Project's Codes Covenants and Restrictions (CC&Rs) and/or tenant lease agreements include contractual language that all landscaping equipment used on site shall be

100 percent electrically powered. All residential and non-residential properties shall be equipped with exterior electrical outlets to accommodate this requirement. This requirement shall be included in the third-party vendor agreements for landscape services for the building owner and tenants, as applicable.

MM AQ-6: Low VOC Paint (Operations). The Project Applicant shall require by contract specifications for commercial development to use interior and exterior architectural coatings (paint and primer including parking lot paint) products that have a volatile organic compound rating of 10 grams per liter or less. Contract specifications shall be reviewed and approved by the City of Santa Ana prior to the issuance of occupancy permits. This measure shall be made a condition of approval for continued upkeep of the property.

5.1.11 LEVEL OF SIGNIFICANCE AFTER MITIGATION

Emissions from operation of the proposed Project would exceed SCAQMD's thresholds for NOx and ROG after implementation of existing regulations and mitigation. The majority of NOx emissions are from vehicles and the majority of ROG emissions would be derived from consumer products, neither of which the Project applicant nor the City have the ability to reduce emissions of. Therefore, both NOx and ROG emissions from implementation of the proposed Project would result in both a project level and a cumulatively considerable significant and unavoidable impact. Hence, Impacts AQ-1 and AQ-2 would be significant and unavoidable after mitigation.

Impact AQ-3 would be less than significant with implementation of mitigation that requires CARB Tier 4 Final off-road construction equipment and construction exhaust and dust control, as detailed previously. Thus, impacts related to exposure of sensitive receptors to substantial pollutant concentrations would be less than significant with implementation of existing regulations and incorporation of mitigation.

REFERENCES

Air Quality Assessment. June 2023. Prepared by Kimley-Horn (Appendix B)

City of Santa Ana General Plan. Accessed: https://www.santa-ana.org/general-plan-documents/

City of Santa Ana General Plan Update Final Recirculated Draft Program Environmental Impact Report - October 2021. Accessed: https://www.santa-ana.org/general-plan-environmental-documents/

Health Risk Assessment. May 2023. Prepared by Kimley-Horn (Appendix C)