ECORP Consulting, Inc.
ENVIRONMENTAL CONSULTANTS

Rotten Robbie #67 Air Quality Technical Analysis Update

To: JR Beard, LHB & Associates

Date: August 22, 2017

Subject: Rotten Robbie #67 Air Quality Technical Analysis Update

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This memorandum addresses changes to the project description since the preparation of the March 2017 Rotten Robbie #67 Air Quality Report for the proposed Rotten Robbie convenience store and gas station to be located at 1202 Oakland Road, San Jose, California.

The original technical analysis was based on the following land uses at the project site:

- Convenience store (24 hour)
- Fuel pumps
- Car Wash
- Parking

We understand that since the March 2017 Rotten Robbie #67 Air Quality Report was performed, the project has been amended to exclude the car wash. Without the car wash facility, the expected air quality emissions would be lower due to a fewer number of automobile trips to the project. Since the original estimate of air quality emissions was below the CEQA threshold, the updated estimate of air quality emissions would also be below the CEQA threshold. Our conclusion of the project having a less-than-significant impact on air quality emissions is still true.

If you would like to discuss further, please contact me, Seth Myers at 530-965-5925 or via e-mail at smyers@ecorpconsulting.com.

Sincerely,

Seth A. Myers

Seth Myers
Air Quality Analyst

ROTTEN ROBBIE #67 PROJECT

AIR QUALITY REPORT

PREPARED BY

Michael Baker
INTERNATIONAL

MARCH 2017

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This report documents the results of an assessment of air quality for the proposed Rotten Robbie #67 Project located at 1202 Oakland Road in San Jose, California.

1.1 PROJECT LOCATION

The project site is located on the east side of Oakland Road, approximately 650 feet north of Highway 101, in San Jose. The site is generally is surrounded by commercial and industrial uses in all directions. There is also a mobile park adjacent to the project site to the north.

1.2 PROJECT DESCRIPTION

The project site is a 1.54-acre site currently occupied by existing buildings and fueling dispensers. The proposed project consists of the removal of the existing buildings and fueling dispensers and the construction of a convenience store (3,750 square feet), car wash (1,400 square feet), auto retail fueling dispensers (with a 3,432 square foot canopy), and cardlock fueling dispensers (with a 4,813 square foot canopy). Other improvements include parking lot and landscape upgrades and the installation of a covered trash enclosure.

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2.1 AIR QUALITY SETTING

Air quality in a region is determined by the region's topography, meteorology, and existing air pollutant sources. These factors are discussed below, along with the current regulatory structure that applies to the San Francisco Bay Area Air Basin (SFBAAB), which encompasses the project site, pursuant to the regulatory authority of the Bay Area Air Quality Management District (BAAQMD).

AIR BASIN CHARACTERISTICS

San Francisco Bay Area Air Basin

San Jose is in the Santa Clara Valley climatological subregion of the San Francisco Area Air Basin. The northwest–southeast-oriented Santa Clara Valley is bounded by the Santa Cruz Mountains to the west, the Diablo Range to the east, the San Francisco Bay to the north, and the convergence of the Gabilan Range and the Diablo Range to the south. Winter temperatures are mild, except for very cool but generally frostless mornings. At the northern end of the Santa Clara Valley, San Jose Airport reports mean maximum temperatures ranging from the high 70s to the low 80s during the summer and from the high 50s to the low 60s during the winter, and mean minimum temperatures ranging from the high 50s in the summer to the low 40s in the winter. Farther inland, where the moderating effect of the bay is not as strong, temperature extremes are greater.

The wind patterns in the valley are influenced greatly by the terrain, resulting in a prevailing flow roughly parallel to the valley's northwest–southeast axis with a north-northwesterly ocean breeze that flows up the valley in the afternoon and early evening and a light south-southeasterly flow during the late evening and early morning. In the summer, a convergence zone is sometimes observed in the southern end of the valley between Gilroy and Morgan Hill when air flowing from the Monterey Bay through the Pajaro Gap is channeled northward into the south end of the Santa Clara Valley and meets with the prevailing north-northwesterly winds. Wind speeds are greatest in the spring and summer; nighttime and early morning hours have light winds and are frequently calm in all seasons, while summer afternoons and evenings can be windy.

Air pollution potential in the Santa Clara Valley is high. The valley has a large population and the largest complex of mobile sources in the Bay Area, making it a major source of carbon monoxide, particulate, and photochemical air pollution. In addition, photochemical pollution precursors from San Francisco, San Mateo, and Alameda counties can be carried by the prevailing winds to the Santa Clara Valley. Geographically, the valley tends to channel pollutants to the southeast because of its northwest–southeast orientation and its narrowing to the southeast.

Meteorological factors also have an effect on emissions levels. On summer days, pollutants can be recirculated by the prevailing northwesterly winds in the afternoon and by the light flow in the late evening and early morning. This recirculation significantly increases the impact of emissions. Inversions, created by warm, stable air aloft that limits the vertical dispersion of air pollutants, increase the emissions impact in all seasons. During days in the late fall and winter, clear, calm, and cold conditions associated with a strong surface-based temperature inversion tend to prevail, which can result in high levels of particulate and carbon monoxide. Though they can be found during all seasons in the Bay Area, inversions are particularly prevalent in the summer months when they are present about 90 percent of the time, both in the morning and in the afternoon.

Pollution Potential Related to Emissions

Although air pollution potential is strongly influenced by climate and topography, the air pollution that occurs in a location also depends on the amount of air pollutant emissions in the surrounding

area or those that have been transported from more distant places. Air pollutant emissions generally are highest in areas that have high population densities, high motor vehicle use, and/or industrialization. Contaminants created by photochemical processes in the atmosphere, such as ozone, may result in high concentrations many miles downwind from the sources of their precursor chemicals (BAAQMD 2011).

CRITERIA AIR POLLUTANTS

Air pollutants emitted into the ambient air by stationary and mobile sources are regulated by federal and state law. These regulated air pollutants are known as criteria air pollutants and are categorized into primary and secondary pollutants. Primary air pollutants are those that are emitted directly from sources. Carbon monoxide (CO), reactive organic gases (ROG), nitrogen oxide (NO_X), sulfur dioxide (SO_2), coarse particulate matter (PM_{10}) and fine particulate matter ($PM_{2.5}$), lead, and fugitive dust are primary air pollutants. Of these, CO, SO_2, PM_{10}, and $PM_{2.5}$ are criteria pollutants. ROG and NO_X are criteria pollutant precursors and go on to form secondary criteria pollutants through chemical and photochemical reactions in the atmosphere. Ozone (O_3) and nitrogen dioxide (NO_2) are the principal secondary pollutants. Presented in **Table 2-1** is a description of each of the primary and secondary criteria air pollutants and their known health effects.

TABLE 2-1
CRITERIA AIR POLLUTANTS – SUMMARY OF COMMON SOURCES AND EFFECTS

Pollutant	Major Man-Made Sources	Human Health & Welfare Effects
Carbon Monoxide (CO)	An odorless, colorless gas formed when carbon in fuel is not burned completely; a component of motor vehicle exhaust.	Reduces the ability of blood to deliver oxygen to vital tissues, effecting the cardiovascular and nervous system. Impairs vision, causes dizziness, and can lead to unconsciousness or death.
Nitrogen Dioxide (NO_2)	A reddish-brown gas formed during fuel combustion for motor vehicles, energy utilities and industrial sources.	Respiratory irritant; aggravates lung and heart problems. Precursor to ozone and acid rain. Contributes to nutrient overloading which deteriorates water quality. Causes brown discoloration of the atmosphere.
Ozone (O_3)	Formed by a chemical reaction between reactive organic gases (ROGs) and nitrous oxides (NOx) in the presence of sunlight. Common sources of these precursor pollutants include motor vehicle exhaust, industrial emissions, solvents, paints and landfills.	Irritates and causes inflammation of the mucous membranes and lung airways; causes wheezing, coughing and pain when inhaling deeply; decreases lung capacity; aggravates lung and heart problems. Damages plants; reduces crop yield.
Particulate Matter (PM_{10} & $PM_{2.5}$)	Power plants, steel mills, chemical plants, unpaved roads and parking lots, wood-burning stoves and fireplaces, automobiles and others.	Increased respiratory symptoms, such as irritation of the airways, coughing, or difficulty breathing; aggravated asthma; development of chronic bronchitis; irregular heartbeat; nonfatal heart attacks; and premature death in people with heart or lung disease. Impairs visibility (haze).
Sulfur Dioxide (SO_2)	A colorless, nonflammable gas formed when fuel containing sulfur is burned. Examples are refineries, cement manufacturing, metal processing facilities, locomotives, and ships.	Respiratory irritant. Aggravates lung and heart problems. In the presence of moisture and oxygen, can damage marble, iron and steel; damage crops and natural vegetation. Impairs visibility.

Source: CAPCOA 2011

AMBIENT AIR QUALITY

Ambient air quality in San Jose can be inferred from ambient air quality measurements conducted at nearby air quality monitoring stations. Existing levels of ambient air quality and historical trends and projections in the vicinity of San Jose are documented by measurements made by the BAAQMD, the air pollution regulatory agency in the San Francisco Bay Area Air Basin that maintains air quality monitoring stations which process ambient air quality measurements.

O_3, PM_{10}, and $PM_{2.5}$ are the pollutants most intensely affecting the SFBAAB. The San Jose– Jackson Street air quality monitoring station (158 E. Jackson Street) is the closest station to the project site, approximately 1.2 miles to the south. This station monitors ambient concentrations of O_3, PM_{10}, and $PM_{2.5}$. Ambient emission concentrations will vary due to localized variations in emission sources and climate and should be considered generally representative of ambient concentrations in San Jose.

Table 2-2 summarizes the published data since 2013 from the San Jose–Jackson Street air quality monitoring station for each year that monitoring data is available.

TABLE 2-2
SUMMARY OF AMBIENT AIR QUALITY DATA

Pollutant Standards	2013	2014	2015
Ozone			
Max 1-hour concentration (ppm)	0.093	0.089	0.094
Max 8-hour concentration (ppm) (state/federal)	0.080 / 0.079	0.066 / 0.066	0.081 / 0.081
Number of days above state 1-hour standard	0	0	0
Number of days above state/federal 8-hour standard	1 / 1	0 / 0	2 / 2
Respirable Particulate Matter (PM_{10})			
Max 24-hour concentration (µg/m³) (state/federal)	58.1 / 55.8	54.7 / 56.4	58.0 / 58.8
Number of days above state/federal standard	15.2 / 0	3.1 / 0	3.0 / 0
Fine Particulate Matter ($PM_{2.5}$)			
Max 24-hour concentration (µg/m³) (state/federal)	57.7 / 57.7	60.4 / 60.4	49.4 / 49.4
Number of days above federal standard	6	2	2.1

Source: CARB 2016

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

As previously stated, O_3, PM_{10}, and $PM_{2.5}$ are the pollutants most intensely affecting the SFBAAB. The US Environmental Protection Agency (EPA) and the State of California have established health-based ambient air quality standards (CAAQS) for 11 air pollutants. As shown in **Table 2-3**, these pollutants are O_3, CO, NO_2, SO_2, PM_{10}, $PM_{2.5}$, lead, sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. Air quality standards are designed to protect the health and welfare of the populace with a reasonable margin of safety. **Table 2-3** also shows the federal and state attainment status for the SFBAAB and thus for San Jose. Areas with air quality that exceed adopted air quality standards are designated as nonattainment areas for the relevant air pollutants, while areas that comply with air quality standards are designated as attainment areas for the relevant air pollutants. The SFBAAB's current attainment status with regard to federal and

state ambient air quality standards is summarized in **Table 2-3**. The region is nonattainment for federal O_3 and $PM_{2.5}$ standards, as well as for state O_3, PM_{10}, and $PM_{2.5}$ standards (BAAQMD 2015).

TABLE 2-3
FEDERAL AND STATE AMBIENT AIR QUALITY ATTAINMENT STATUS
FOR THE SAN FRANCISCO BAY AREA AIR BASIN

Pollutant	Averaging Time	California Standards		National Standards	
		Concentration	Attainment Status	Concentration	Attainment Status
Ozone (O_3)	8 Hours	0.070 ppm (137µg/m³)	N	0.075 ppm	N
	1 Hour	0.09 ppm (180 µg/m³)	N	No standard	Not applicable
Carbon Monoxide (CO)	8 Hours	9.0 ppm (10 mg/m³)	A	9 ppm (10 mg/m³)	A
	1 Hour	20 ppm (23 mg/m³)	A	35 ppm (40 mg/m³)	A
Nitrogen Dioxide (NO_2)	1 Hour	0.18 ppm (339 µg/m³)	A	0.100 ppm	U
	Annual Arithmetic Mean	0.030 ppm (57 µg/m³)		0.053 ppm (100 µg/m³)	A
Sulfur Dioxide (SO_2)	24 Hours	0.04 ppm (105 µg/m³)	A	0.14 ppm (365/µg/m³)	A
	1 Hour	0.25 ppm (665 µg/m³)	A	0.075 ppm (196/µg/m³)	A
	Annual Arithmetic Mean			0.030 ppm (80/µg/m³)	A
Particulate Matter (PM_{10})	Annual Arithmetic Mean	20 µg/m³	N	No standard	Not applicable
	24 Hours	50 µg/m³	N	150 µg/m³	U
Particulate Matter – Fine ($PM_{2.5}$)	Annual Arithmetic Mean	12 µg/m³	N	15 µg/m³	A
	24 Hours			35 µg/m³	N
Sulfates	24 Hours	25 µg/m³	A	—	—
Lead	30-Day Average	1.5 µg/m³		—	A
	Calendar Quarter	—	—	1.5 µg/m³	A
	Rolling 3-Month Average	—	—	0.15 µg/m³	—
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m³)	U	—	—
Vinyl Chloride (chloroethene)	24 Hours	0.01 ppm (26 µg/m³)	No information available	—	—
Visibility-Reducing Particles	8 Hours (10:00 to 18:00 PST)	—	—	—	—

Source: BAAQMD 2015

Notes: A=attainment; N=nonattainment; U=unclassified

mg/m³=milligrams per cubic meter; ppm=parts per million; ppb=parts per billion; µg/m³=micrograms per cubic meter

TOXIC AIR CONTAMINANTS

In addition to the criteria air pollutants listed above, another group of pollutants, commonly referred to as toxic air contaminants (TACs) or hazardous air pollutants, can result in health effects that can be quite severe. The California Air Resources Board (CARB) (1999) has designated 244 compounds as TACs. Many TACs are confirmed or suspected carcinogens, or are known or suspected to cause birth defects or neurological damage. Secondly, many TACs can be toxic at very low concentrations. For some chemicals, such as carcinogens, there are no thresholds below which exposure can be considered risk-free.

Industrial facilities and mobile sources are significant sources of TACs. However, TAC emissions are also produced by common urban facilities, such as gasoline stations (benzene). Automobile exhaust also contains TACs such as benzene and 1,3-butadiene. In addition, diesel particulate matter (diesel PM) is a TAC. Diesel PM differs from other toxic air contaminants in that it is not a single substance but rather a complex mixture of hundreds of substances. BAAQMD (2011) research indicates that mobile-source emissions of diesel PM, benzene, and 1,3-butadiene represent a substantial portion of the ambient background risk from toxic air contaminants in the SFBAAB.

The health effects associated with TACs are diverse and generally are assessed locally rather than regionally. TACs can cause long-term health effects such as cancer, birth defects, neurological damage, asthma, bronchitis, or genetic damage, or short-term acute effects such as eye watering, respiratory irritation (a cough), runny nose, throat pain, and headaches. For evaluation purposes, TACs are separated into carcinogens and non-carcinogens based on the nature of the physiological effects associated with exposure to the pollutant. Carcinogens are assumed to have no safe threshold below which health impacts would not occur. Non-carcinogenic substances differ in that there is generally assumed to be a safe level of exposure below which no negative health impact is believed to occur. These levels are determined on a pollutant-by-pollutant basis (BAAQMD 2011).

Sensitive Receptors

Some land uses are considered more sensitive to air pollution than others because of the types of population groups or activities involved. Sensitive population groups include children, the elderly, the acutely ill, and the chronically ill, especially those with cardiorespiratory diseases.

Residential areas are considered to be sensitive receptors to air pollution because residents (including children and the elderly) tend to be at home for extended periods of time, resulting in sustained exposure to any pollutants present. Children are considered more susceptible to health effects of air pollution because of their immature immune systems and developing organs (OEHHA 2007). As such, schools are also considered sensitive receptors because children are present for extended durations and engage in regular outdoor activities. Recreational land uses are considered moderately sensitive to air pollution. Although exposure periods are generally short, exercise places a high demand on respiratory functions, which can be impaired by air pollution. In addition, noticeable air pollution can detract from the enjoyment of recreation.

2.2 REGULATORY FRAMEWORK

FEDERAL

The EPA is the federal agency responsible for setting and enforcing the federal ambient air quality standards for atmospheric pollutants. The EPA regulates emission sources that are under the exclusive authority of the federal government, such as aircraft, ships, and certain locomotives. As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan (SIP) describing a strategy for the means to attain the federal standards for ozone and particulate matter. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution, using a combination of performance standards and market-based programs.

Clean Air Act

The federal Clean Air Act (CAA), as amended, establishes air quality standards for several pollutants. These standards are divided into primary standards and secondary standards. Primary standards are designed to protect public health, and secondary standards are intended to protect public welfare from effects such as visibility reduction, soiling, nuisance, and other forms of damage. The CAA requires that regional plans be prepared for nonattainment areas illustrating how the federal air quality standards could be met.

Regulation of TACs is achieved through federal and state controls on individual sources. The 1990 Clean Air Act Amendments offered a comprehensive plan for achieving significant reduction in both mobile and stationary source emissions of certain designated hazardous air pollutants, with a goal of achieving the EPA's one in 1 million cancer risk from toxic air contaminants.

STATE

CARB, a part of the California Environmental Protection Agency (Cal/EPA), is responsible for the coordination and administration of both federal and state air pollution control programs in California. In this capacity, CARB conducts research, sets state ambient air quality standards, compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions.

Air Quality Attainment Plans

The BAAQMD is responsible for preparing plans to attain ambient air quality standards in the San Francisco Bay Area Air Basin. The BAAQMD prepares ozone attainment plans for the national ozone standard and clean air plans for the California standard, both in coordination with the Metropolitan Transportation Commission and the Association of Bay Area Governments (ABAG).

With respect to applicable air quality plans, the BAAQMD prepared the Bay Area 2010 Clean Air Plan to address nonattainment of the national 1-hour ozone standard in the air basin. The plan defines a control strategy that the BAAQMD and its partners will implement to (1) reduce emissions and decrease ambient concentrations of harmful pollutants; (2) safeguard public health by reducing exposure to air pollutants that pose the greatest health risk, with an emphasis on protecting the communities most heavily impacted by air pollution; and (3) reduce greenhouse gas (GHG) emissions to protect the climate. It is important to note that in addition to updating the

previously prepared ozone plan, the adopted Clean Air Plan also serves as a multipollutant plan to protect public health and the climate. This effort to develop its first-ever multipollutant air quality plan is a voluntary initiative by the BAAQMD. The district believes that an integrated and comprehensive approach to planning is critical to respond to air quality and climate protection challenges in the years ahead. In its dual role as an update to the state ozone plan and a multipollutant plan, the Bay Area 2010 Clean Air Plan addresses four categories of pollutants (BAAQMD 2010):

- Ground-level ozone and its key precursors, ROG and NO_X
- Particulate matter: primary $PM_{2.5}$, as well as precursors to secondary $PM_{2.5}$
- Air toxics
- Greenhouse gases

The Clean Air Plan provides local guidance for the SIP, which establishes the framework for air quality basins to achieve attainment of the state and federal ambient air quality standards.

The BAAQMD is currently updating the 2010 Bay Area Clean Air Plan in partnership with ABAG, the Bay Conservation and Development Commission, and the Metropolitan Transportation Commission.

The 2016 Clean Air Plan/Regional Climate Protection Strategy will be a road map for the air district's efforts over the next few years to reduce air pollution and protect public health and the global climate. The California Clean Air Act requires the Clean Air Plan to identify potential rules, control measures, and strategies for the Bay Area to implement in order to meet state standards for ozone. The plan will include the Bay Area's first-ever comprehensive Regional Climate Protection Strategy, which will identify potential rules, control measures, and strategies that the BAAQMD can pursue to reduce greenhouse gases in the Bay Area.

Toxic Air Contaminant Regulations

The California Health and Safety Code defines a TAC as "an air pollutant which may cause or contribute to an increase in mortality or in serious illness, or which may pose a present or potential hazard to human health." The State of California regulates TACs primarily through Assembly Bill (AB) 1807 (Tanner Air Toxics Act) and AB 2588 (Air Toxics "Hot Spot" Information and Assessment Act of 1987).

The Tanner Air Toxics Act sets forth a formal procedure for CARB to designate substances as toxic air contaminants. Once a toxic air contaminant is identified, CARB adopts an "airborne toxics control measure" for sources that emit designated TACs. If there is a safe threshold for a substance (a point below which there is no toxic effect), the control measure must reduce exposure to below that threshold. If there is no safe threshold, the measure must incorporate toxics best available control technology to minimize emissions. CARB has, to date, established formal control measures for 11 TACs, all of which are identified as having no safe threshold.

Air toxics from stationary sources are also regulated in California under the Air Toxics "Hot Spot" Information and Assessment Act of 1987. Under AB 2588, toxic air contaminant emissions from individual facilities are quantified and prioritized by the air quality management district or air pollution control district. High-priority facilities are required to perform a health risk assessment and, if specific thresholds are exceeded, are required to communicate the results to the public in the form of notices and public meetings.

California Diesel Risk Reduction Plan

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

Since initial adoption of the DRRP in September 2000, CARB has adopted numerous rules related to the reduction of diesel PM from mobile sources, as well as the use of cleaner-burning fuels. Transportation sources addressed by these rules pertaining to San Jose include public transit buses, school buses, on-road heavy-duty trucks, and off-road heavy-duty construction equipment.

REGIONAL

Bay Area Air Quality Management District

The BAAQMD attains and maintains air quality conditions in the San Francisco Bay Area Air Basin through a comprehensive program of planning, regulation, enforcement, technical innovation, and promotion of the understanding of air quality issues. The BAAQMD's clean air strategy includes the preparation of plans for the 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. The BAAQMD 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 federal Clean Air Act, the Clean Air Act Amendments, and the California Clean Air Act.

Rules and Regulations

The BAAQMD develops regulations to improve air quality and protect the health and welfare of Bay Area residents and their environment. BAAQMD rules and regulations most applicable to the project area include, but are not limited to, the following:

- ***Regulation 2, Rule 2: New Source Review.*** Requires any new source resulting in an increase of any criteria pollutant to be evaluated for adherence to best available control technology. For compression internal combustion engines, best available control technology requires that the generator be fired on California diesel fuel (fuel oil with a sulfur content less than 0.05 percent by weight and less than 20 percent by volume of aromatic hydrocarbons). All stationary internal combustion engines larger than 50 horsepower must obtain a Permit to Operate. If the engine is diesel fueled, it must also comply with the BAAQMD-administered Statewide Air Toxics Control Measure for Stationary Diesel Engines.

- ***Regulation 7: Odorous Substances.*** Establishes general limitations on odorous substances and specific emission limitations on certain odorous compounds.

- ***Regulation 8, Rule 3: Architectural Coatings.*** Limits the quantity of volatile organic compounds in architectural coatings supplied, sold, offered for sale, applied, solicited for application, or manufactured for use within the district.

- ***Regulation 14: Mobile Source Emissions Reduction Measures.*** Includes measures to reduce emissions of air pollutants from mobile sources by reducing motor vehicle use and/or promoting the use of clean fuels and low-emission vehicles.

The above list includes rules and regulations most applicable to the proposed project. Additional rules and regulations may apply, depending on the sources proposed and the activities conducted.

BAAQMD Construction Mitigation Measures

The BAAQMD recommends quantifying a proposed project's construction-generated emissions implementing the Basic Construction Mitigation Measures as mitigation for dust and exhaust construction impacts in California Environmental Quality Act (CEQA) compliance documentation. If additional construction measures are required to reduce construction generated emissions, the Additional Construction Mitigation Measures should then be applied to mitigate construction impacts. **Table 2-4** identifies the Basic and Additional Construction Mitigation Measures. In addition, all projects must implement any applicable air toxic control measures. For example, projects that have the potential to disturb asbestos (from soil or building materials) must comply with all the requirements of CARB's air toxic control measures for construction, grading, quarrying, and surface mining operations.

TABLE 2-4
BAAQMD BASIC AND ADDITIONAL CONSTRUCTION MITIGATION MEASURES

Basic Construction Mitigation Measures
1. All exposed surfaces (e.g., parking areas, staging areas, soil piles, graded areas, and unpaved access roads) shall be watered two times per day.
2. All haul trucks transporting soil, sand, or other loose material off-site shall be covered.
3. All visible mud or dirt track-out onto adjacent public roads shall be removed using wet power vacuum street sweepers at least once per day. The use of dry power sweeping is prohibited.
4. All vehicle speeds on unpaved roads shall be limited to 15 mph.
5. All roadways, driveways, and sidewalks to be paved shall be completed as soon as possible. Building pads shall be laid as soon as possible after grading unless seeding or soil binders are used.
6. Idling times shall be minimized either by shutting equipment off when not in use or reducing the maximum idling time to 5 minutes (as required by the California airborne toxics control measure Title 13, Section 2485 of California Code of Regulations [CCR]). Clear signage shall be provided for construction workers at all access points.
7. All construction equipment shall be maintained and properly tuned in accordance with manufacturer's specifications. All equipment shall be checked by a certified visible emissions evaluator.
8. Post a publicly visible sign with the telephone number and person to contact at the lead agency regarding dust complaints. This person shall respond and take corrective action within 48 hours. The air district's phone number shall also be visible to ensure compliance with applicable regulations.
Additional Construction Mitigation Measures
1. All exposed surfaces shall be watered at a frequency adequate to maintain minimum soil moisture of 12 percent. Moisture content can be verified by lab samples or moisture probe.
2. All excavation, grading, and/or demolition activities shall be suspended when average wind speeds exceed 20 mph.
3. Wind breaks (e.g., trees, fences) shall be installed on the windward side(s) of actively disturbed areas of construction. Wind breaks should have at maximum 50 percent air porosity.
4. Vegetative ground cover (e.g., fast-germinating native grass seed) shall be planted in disturbed areas as soon as possible and watered appropriately until vegetation is established.
5. The simultaneous occurrence of excavation, grading, and ground-disturbing construction activities on the same area at any one time shall be limited. Activities shall be phased to reduce the amount of disturbed surfaces at any one time.
6. All trucks and equipment, including their tires, shall be washed off prior to leaving the site.
7. Site accesses to a distance of 100 feet from the paved road shall be treated with a 6- to 12-inch compacted layer of wood chips, mulch, or gravel.
8. Sandbags or other erosion control measures shall be installed to prevent silt runoff to public roadways from sites with a slope greater than 1 percent.
9. Minimizing the idling time of diesel-powered construction equipment to 2 minutes.
10. The project shall develop a plan demonstrating that the off-road equipment (more than 50 horsepower) to be used in the construction project (i.e., owned, leased, and subcontractor vehicles) would achieve a project wide fleet-average 20 percent NOx reduction and 45 percent PM reduction compared to the most recent CARB fleet average. Acceptable options for reducing emissions include the use of late model engines, low-emission diesel products, alternative fuels, engine retrofit technology, after-treatment products, add-on devices such as particulate filters, and/or other options as such become available.
11. Use low VOC (i.e., ROG) coatings beyond the local requirements (i.e., Regulation 8, Rule 3: Architectural Coatings).
12. Requiring that all construction equipment, diesel trucks, and generators be equipped with Best Available Control Technology for emission reductions of NOx and PM.
13. Requiring all contractors use equipment that meets CARB's most recent certification standard for off-road heavy duty diesel engines.

Source: BAAQMD 2011

2.3 AIR QUALITY IMPACT ASSESSMENT

The impact analysis below is based on guidance from the BAAQMD.

THRESHOLDS OF SIGNIFICANCE

The BAAQMD publishes air quality guidelines to assist local jurisdictions and lead agencies in complying with California Environmental Quality Act (CEQA) requirements regarding potentially adverse impacts to air quality. The district's guidelines were updated in June 2010 to include new thresholds of significance (2010 thresholds) adopted by the BAAQMD Governing Board on June 2, 2010. The 2010 thresholds included new thresholds of significance for construction emissions, cumulative TAC impacts, and fine particulate matter concentration increases. The BAAQMD's guidelines were further updated in May 2011.

On March 5, 2012, the Alameda County Superior Court issued a judgment in connection with a lawsuit filed by the Building Industry Association, finding that the BAAQMD had failed to comply with CEQA when it adopted the 2010 thresholds. The court did not determine whether the 2010 thresholds were valid on the merits, but found that adoption of the 2010 thresholds was a "project" under CEQA. The court issued a writ of mandate ordering the BAAQMD to set aside the 2010 thresholds and cease dissemination of them until the district had complied with CEQA. However, the court did not address the Building Industry Association's remaining arguments. The BAAQMD appealed the Alameda County Superior Court's decision and the case went to the Court of Appeal, First Appellate District.

After the Alameda County Superior Court's decision, the BAAQMD stopped recommending the 2010 thresholds be used as a generally applicable measure of a project's significant air quality impacts. The BAAQMD released a new version of its CEQA air quality guidelines in May 2012 removing the 2010 thresholds. The BAAQMD, however, recommended that lead agencies determine appropriate air quality thresholds of significance based on substantial evidence in the record.

On August 13, 2013, the Court of Appeal reversed the Superior Court's decision, finding that the BAAQMD's thresholds were not a "project" under CEQA and, as such, did not require CEQA review. On November 26, 2013, the California Supreme Court by unanimous vote granted review, but solely to address the legal issue of whether CEQA review is confined to an analysis of a proposed project's impacts on the existing environment or also requires analysis of the existing environment's impacts on the proposed project and its future occupants and users. On December 17, 2015, the Supreme Court of California issued its ruling, concluding that agencies subject to CEQA generally are not required to analyze the impact of existing environmental conditions on a project's future users or residents. However, when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment—and not the environment's impact on the project. Given the recent date of the Supreme Court decision compared with the writing of this assessment, the BAAQMD has yet to announce a recommendation regarding use of its 2010 thresholds. (A petition for rehearing, filed August 25, 2016, was denied September 9, 2016.) In the meantime, lead agencies may exercise their discretion and utilize said thresholds based on a determination that they are supported by substantial evidence.

This assessment uses the 2010 BAAQMD's thresholds since they are supported by substantial evidence. Using these criteria, an air quality impact is considered significant if the project would violate any ambient air quality standard, contribute substantially to an existing or projected air quality violation, or expose sensitive receptors to substantial pollutant concentrations. The BAAQMD

thresholds of significance for evaluating construction and operational air quality impacts are listed in **Table 2-5**.

TABLE 2-5
BAAQMD SIGNIFICANCE THRESHOLDS

Air Pollutant	Construction Activities	Operations	
Reactive Organic Gases (ROG)	54 pounds/day	54 pounds/day	10 tons/year
Nitrogen Oxides (NO_x)	54 pounds/day	54 pounds/day	10 tons/year
Coarse Particulates (PM_{10})	82 pounds/day (exhaust PM_{10})	82 pounds/day	15 tons/year
Fine Particulates ($PM_{2.5}$)	54 pounds/day (exhaust $PM_{2.5}$)	54 pounds/day	10 tons/year
Fugitive Dust Particulate Matter	BAAQMD Best Management Practices	None	None
Carbon Monoxide (CO)	None	None	None
Sulfur Oxides (SO_x)	None	None	None

*Source: BAAQMD 2011. The BAAQMD recommends Basic Construction Mitigation Measures (see **Table 2-4**) during construction in order to achieve less than significant impacts related to fugitive dust emissions during construction activities (fugitive dust PM_{10} and $PM_{2.5}$).*

Carbon Monoxide Hot-Spot Analysis

In addition to the significance thresholds listed above, the project would be subject to the ambient air quality standards. These are addressed though an analysis of localized CO impacts. The California 1-hour and 8-hour carbon monoxide standards are:

- 1-hour = 20 parts per million
- 8-hour = 9 parts per million

The significance of localized impacts depends on whether ambient CO levels in the vicinity of the project site are above state and federal carbon monoxide standards. CO concentrations in San Jose do not exceed the CAAQS or NAAQS criteria, and the air basin has been designated as attainment under the 1-hour and 8-hour standards.

Toxic Air Contaminant Thresholds

In addition to the above thresholds relating to criteria air pollutants and CO hot spots, this report evaluates the project's impacts with respect to toxic air contaminants. The BAAQMD regulates levels of air toxics through a permitting process. If emissions of TACs exceed an excess cancer risk level of more than 10 in one million or a non-cancer hazard index greater than 1.0, the project would result in a significant impact.

METHODOLOGY

Air quality impacts were assessed in accordance with methodologies recommended by CARB and the BAAQMD, based on the maximum development potential assumptions provided by the project applicant. Criteria air pollutant emissions were modeled using the California Emissions Estimator Model (CalEEMod) (see **Appendix A**). CalEEMod is a statewide land use emissions

computer model designed to quantify potential criteria pollutant emissions from a variety of land use projects.

Project construction-generated emissions were calculated using a construction time frame of approximately 11 months. Construction includes the demolition of 12,848 square feet of building space and the hauling of associated materials from the site, as well as the construction of 5,150 square feet of new building space. Operational emissions were predominately based on the average daily trips and energy usage.

POTENTIAL IMPACT ANALYSIS

Construction-Generated Emissions

The Project would generate short-term emissions from construction activities such as demolition, site preparation, site grading, building construction, and architectural coatings (e.g., painting). Common construction emissions include fugitive dust from soil disturbance, fuel combustion from mobile heavy-duty diesel- and gasoline-powered equipment, portable auxiliary equipment, and worker commute trips. During construction, fugitive dust, the dominant source of PM_{10} and $PM_{2.5}$ emissions, is generated when wheels or blades disturb surface materials. Uncontrolled dust from construction can become a nuisance and potential health hazard to those living and working nearby. Off-road construction equipment is often diesel-powered and can be a substantial source of NO_X emissions, in addition to PM_{10} and $PM_{2.5}$ emissions. Worker commute trips and architectural coatings are dominant sources of ROG emissions. Predicted maximum daily construction-generated emissions for the project are summarized in **Table 2-6**.

TABLE 2-6
CONSTRUCTION-RELATED CRITERIA POLLUTANT AND PRECURSOR EMISSIONS
(MAXIMUM POUNDS PER DAY)

Construction Activities	ROG	NO_X	Exhaust PM_{10}	Exhaust $PM_{2.5}$	Fugitive Dust PM_{10}	Fugitive Dust $PM_{2.5}$
Proposed Project (2017)	5.10	34.18	2.15	2.05	2.68	1.35
Proposed Project (2018)	4.50	30.34	1.82	1.74	0.19	0.05
BAAQMD Potentially Significant Impact Threshold	54	54	82	54	Basic Construction Mitigation Measures	Basic Construction Mitigation Measures
Exceed BAAQMD Daily Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

*Source: CalEEMod version 2016.3.1. See **Appendix A** for emission model outputs.*

As shown in **Table 2-6**, all criteria pollutant emissions would remain below their respective thresholds.

The BAAQMD does not have a numerical threshold for construction-generated fugitive dust PM_{10} and fugitive dust $PM_{2.5}$. Instead, the BAAQMD recommends Basic Construction Mitigation Measures (see **Table 2-4**) during construction in order to achieve less than significant impacts related to fugitive dust emissions during construction activities (fugitive dust PM_{10} and $PM_{2.5}$). Policy MS-10.1 of the San Jose General Plan requires the implantation of all feasible air emission reduction measures, thus requiring the BAAQMD Basic Construction Mitigation Measures (San Jose 2011).

Therefore, fugitive dust PM_{10} and fugitive dust $PM_{2.5}$ generated as a result of the proposed project would be less than significant.

Operational Emissions

The project would result in long-term operational emissions of criteria air pollutants and ozone precursors (i.e., ROG and NO_X). Project-generated emissions would be predominantly associated with motor vehicle use. Long-term operational emissions are summarized in **Table 2-7.**

TABLE 2-7
LONG-TERM OPERATIONAL EMISSIONS

Source	ROG	NO_x	CO	SO_2	PM_{10}	$PM_{2.5}$
Summer Emissions (Maximum Pounds per Day)						
Proposed Project	14.45	35.19	86.76	0.18	12.73	3.55
BAAQMD Potentially Significant Impact Threshold (Daily Emissions)	54	54	None	None	82	54
Exceed BAAQMD Daily Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Winter Emissions (Maximum Pounds per Day)						
Proposed Project	12.37	36.42	100.19	0.17	12.73	3.55
BAAQMD Potentially Significant Impact Threshold (Daily Emissions)	54	54	None	None	82	54
Exceed BAAQMD Daily Threshold?	**No**	**No**	**No**	**No**	**No**	**No**
Annual Emissions (Maximum Tons per Year)						
Proposed Project	2.11	6.13	15.59	0.03	2.08	0.58
BAAQMD Potentially Significant Impact Threshold (Annual Emissions)	10	10	None	None	15	10
Exceed BAAQMD Annual Threshold?	**No**	**No**	**No**	**No**	**No**	**No**

*Source: CalEEMod version 2016.3.1. See **Appendix A** for emission model outputs.*

As shown in **Table 2-7**, all criteria pollutant emissions would remain below their respective thresholds.

Conformity with Air Quality Planning (2010 Bay Area Plan)

As part of its enforcement responsibilities, the EPA requires each state with nonattainment areas to prepare and submit a State Implementation Plan that demonstrates the means to attain the federal standards. The SIP must integrate federal, state, and local plan components and regulations to identify specific measures to reduce pollution in nonattainment areas, using a combination of performance standards and market-based programs. Similarly, under state law, the California Clean Air Act requires an air quality attainment plan to be prepared for areas designated as nonattainment with regard to the federal and state ambient air quality standards. Air quality attainment plans outline emissions limits and control measures to achieve and maintain these standards by the earliest practical date.

As previously stated, the BAAQMD prepared the Bay Area 2010 Clean Air Plan as a multipollutant plan to address the air basin's nonattainment status related to the national 1-hour ozone standard and the CAAQS, as well as particulate matter, air toxics, and greenhouse gases. The plan establishes a program of rules and regulations directed at reducing air pollutant emissions and achieving state (California) and national air quality standards. The Clean Air Plan's pollutant control strategies are based on the latest scientific and technical information and planning assumptions, updated emission inventory methodologies for various source categories, and the latest population growth projections and vehicle miles traveled (VMT) projections for the region.

Criteria for determining consistency with the Clean Air Plan are defined by the following indicators:

- Consistency Criterion No. 1: The project supports the primary goals of the Clean Air Plan.
- Consistency Criterion No. 2: The project conforms to applicable control measures from the Clean Air Plan and does not disrupt or hinder the implementation of any Clean Air Plan control measures.

The violations to which Consistency Criterion No. 1 refer are the California ambient air quality standards (CAAQS) and the national ambient air quality standards (NAAQS). As evaluated above in **Tables 2-6** and **2-7**, the project would not exceed operational nor construction standards and therefore would not violate air quality standards. Thus the project would be consistent with the first criterion.

Concerning Consistency Criterion No. 2, the Bay Area 2010 Clean Air Plan contains air pollutant reduction strategies and demonstrates that the applicable ambient air quality standards can be achieved within the time frames required under federal law. Growth projections from local general plans adopted by cities in the air district are used to develop regional growth forecasts. The regional growth forecasts are used to develop future air quality forecasts for the Bay Area 2010 Clean Air Plan. Development in San Jose consistent with the growth projections in the San Jose General Plan is considered to be consistent with the Bay Area 2010 Clean Air Plan. The project would update and expand the existing gas station. While the project would increase the intensity of building square footage, it would not represent a new type of land use or an air emissions generation source, as it is the modernization of an existing facility. Therefore, the proposed project is consistent with the land use designation and development density presented in the General Plan and therefore would not exceed the population or job growth projections used to inform the air quality forecasts of the Bay Area 2010 Clean Air Plan.

Thus, no impact would occur, as the project is consistent with both criteria.

Air Toxics (TACs) Generated During Project Construction

As discussed above, sensitive land uses are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65 years old, children under the age of 14, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

Sources of construction-related TACs potentially affecting sensitive receptors include off-road diesel-powered equipment. Construction would result in the generation of diesel PM emissions from the use of off-road diesel equipment required for grading and excavation, paving, and other

construction activities. The amount to which the receptors are exposed (a function of concentration and duration of exposure) is the primary factor used to determine health risk (i.e., potential exposure to TAC emission levels that exceed applicable standards). Health-related risks associated with diesel-exhaust emissions are primarily linked to long-term exposure and the associated risk of contracting cancer.

Though the construction of the proposed project could create a hazard to the nearby sensitive receptors, these impacts are anticipated to be temporary and short term. Nonetheless, there are mobile residences adjacent to the project site to the north. The use of diesel-powered construction equipment would be temporary and episodic and would occur over several locations isolated from one another. Additionally, it is generally considered that construction projects contained on a site of this small size represent less than significant health risk impacts due to (1) limitations on the off-road diesel equipment able to operate and thus a reduced amount of generated diesel PM, (2) the reduced amount of dust-generating ground disturbance possible compared to larger construction sites, and (3) the reduced duration of construction activities compared to the development of larger sites. Additionally, future development would be subject to and would comply with California regulations limiting idling to no more than 5 minutes, which would further reduce nearby sensitive receptors' exposure to temporary and variable diesel PM emissions. Construction-related activities associated with the project would comply with all applicable BAAQMD regulations, including Basic Construction Mitigation Measures (see **Table 2-4**).

Air Toxics (TACs) Generated During Project Operations

As discussed above, sensitive land uses are defined as facilities or land uses that include members of the population who are particularly sensitive to the effects of air pollutants, such as children, the elderly, and people with illnesses. Examples of these sensitive receptors are residences, schools, hospitals, and daycare centers. CARB has identified the following groups of individuals as the most likely to be affected by air pollution: the elderly over 65, children under 14, and persons with cardiovascular and chronic respiratory diseases such as asthma, emphysema, and bronchitis.

The proposed project would be a source of gasoline vapors that would include toxic air contaminants (TACs) such as benzene, methyl tertiary-butyl ether, toluene, and xylene. Benzene is the primary TAC associated with gas stations. Gasoline vapors are released during the filling of the stationary USTs and during the transfer from those underground tanks to individual vehicles.

CAPCOA's *Health Risk Assessments for Proposed Land Use Projects* (2009) offers guidance on developing gasoline dispensing facilities in proximity to sensitive land uses. The document recommends that typical gas stations, defined as facilities with a throughput of less than 3.6 million gallons per year, be sited no closer than 50 feet from a sensitive land use. Based on a review of the site plan, the nearest gas dispensing facility is proposed to be approximately 50 feet from the nearest sensitive receptor. Therefore, there would not be a negative impact to the proposed Project.

Furthermore, the BAAQMD has stringent requirements for the control of gasoline vapor emissions from gasoline-dispensing facilities. BAAQMD Regulation 8 Rule 7, *Gasoline Dispensing Facilities*, limits emissions of organic compounds from gasoline-dispensing facilities. Regulation 8 Rule 7 prohibits the transfer or allowance of the transfer of gasoline into stationary tanks at a gasoline-dispensing facility unless a CARB-certified Phase I vapor recovery system is used; and further prohibits the transfer or allowance of the transfer of gasoline from stationary tanks into motor vehicle fuel tanks at a gasoline-dispensing facility unless a CARB-certified Phase II vapor recovery system is used during each transfer. Vapor recovery systems collect gasoline vapors that would otherwise escape into the air during bulk fuel delivery (Phase I) or fuel storage and vehicle

refueling (Phase II). Phase I vapor recovery system components include the couplers that connect tanker trucks to the underground tanks, spill containment drain valves, overfill prevention devices, and vent pressure/vacuum valves.

Phase II vapor recovery system components include gasoline dispensers, nozzles, piping, break away, hoses, face plates, vapor processors, and system monitors. Regulation 8 Rule 7 also requires fuel storage tanks to be equipped with a permanent submerged fill pipe and the storage tank which prevents the escape of gasoline vapors. BAAQMD's permitting procedures require substantial control of emissions, and permits are not issued unless TAC risk screening or TAC risk assessment can show that risks are not significant. BAAQMD may impose limits on annual throughput to ensure that risks are within acceptable limits. In addition, California has statewide limits on the benzene content in gasoline, which greatly reduces the toxic potential of gasoline emissions.

Gasoline-dispensing facilities are also regulated by BAAQMD Regulation 2, Rule 5, New Source Review of Toxic Air Contaminants, which provides for the review of TAC emissions in order to evaluate potential public exposure and health risk, to mitigate potentially significant health risks resulting from these exposures, and to provide net health risk benefits by improving the level of control when existing sources are modified or replaced. Pursuant to BAAQMD Regulation 2, Rule 5, stationary sources having the potential to emit TACs, including gas stations, are required to obtain permits from BAAQMD. Permits may be granted to these operations provided they are operated in accordance with applicable BAAQMD rules and regulations. The BAAQMD's permitting procedures require substantial control of emissions, and permits are not issued unless TAC risk screening or TAC risk assessment can show that risks are not significant. The BAAQMD may impose limits on annual throughput to ensure that risks are within acceptable limits. (In addition, California has statewide limits on the benzene content in gasoline, which greatly reduces the toxic potential of gasoline emissions.) The following requirements must be met before a BAAQMD permit is granted to the proposed gasoline station component of the project.

- The cumulative increase from all TACs emitted from a single piece of equipment in maximum individual cancer risk (MICR) shall not exceed:
  - one in one million (1×10^{-6}) if Best Available Control Technology for Toxics (T-BACT) is not used; or
  - ten in one million (10×10^{-6}) if T-BACT is used.
- The cumulative cancer burden from all TACs emitted from a single piece of equipment (increase in cancer cases in the population) shall not exceed 0.5.
- Neither the chronic hazard index (HIC), the 8-hour chronic hazard index (HIC8), nor the total acute hazard index (HIA) from all TACs emitted from a single piece of equipment shall exceed 1.0 for any target organ system, or an alternate hazard index level deemed to be safe.

Since the BAAQMD only issues permits if TAC risk screening or TAC risk assessment can show that risks are not significant, impacts of TACs during operations are less than significant.

For the reasons described, impacts associated with substantial concentrations of air toxics would be less than significant.

Carbon Monoxide Hot Spots

The primary mobile-source criteria pollutant of local concern is CO. Concentrations of carbon monoxide are a direct function of the number of vehicles, length of delay, and traffic flow conditions. Transport of this criteria pollutant is extremely limited; CO disperses rapidly with distance from the source under normal meteorological conditions. Under certain meteorological conditions, however, CO concentrations close to congested intersections that experience high levels of traffic and elevated background concentrations may reach unhealthy levels, affecting nearby sensitive receptors. Areas of high CO concentrations, or "hot spots," are typically associated with intersections that are projected to operate at unacceptable levels of service during the peak commute hours.[1] Modeling is therefore typically conducted for intersections that are projected to operate at unacceptable levels of service during peak commute hours.

Based on BAAQMD guidance, projects meeting all of the following screening criteria would be considered to have a less than significant impact on localized carbon monoxide concentrations if:

1. The project is consistent with an applicable congestion management program established by the county congestion management agency for designated roads or highways, regional transportation plans, and local congestion management agency plans.

2. The project traffic would not increase traffic volumes at affected intersections to more than 44,000 vehicles per hour.

3. The project traffic would not increase traffic volumes at affected intersections to more than 24,000 vehicles per hour where vertical and/or horizontal mixing is substantially limited (e.g., tunnel, parking garage, bridge underpass, natural or urban street canyon, below-grade roadway).

Approximately 8,828 average daily trips would be generated under project operations (see **Appendix A**). The project would not increase traffic volumes to more than 44,000 vehicles per hour or 24,000 vehicles per hour where vertical and/or horizontal mixing of pollutants and atmosphere is substantially limited (i.e., an enclosed parking structure).

Odors

With respect to operational impacts, the BAAQMD recommends screening criteria based on the distance between the receptor and the types of sources known to generate odor. The land uses identified by the BAAQMD as sources of odors include wastewater treatment plants, wastewater pumping facilities, sanitary landfills, transfer stations, composting facilities, petroleum refineries, asphalt batch plants, chemical manufacturing and fiberglass manufacturing facilities, painting/coating operations, rendering plants, coffee roasters, food processing facilities, confined animal facilities, feedlots, dairies, green waste and recycling operations, and metal smelting plants. If a source of odors is proposed to be located near existing or planned sensitive receptors, it could have the potential to cause operational-related odor impacts.

The project site could be considered a source of unpleasant odors by some given its current and continuing use. However, the BAAQMD has stringent requirements for the control of gasoline vapor emissions from gasoline-dispensing facilities as articulated in BAAQMD Regulation 8 Rule 7.

[1] Level of service (LOS) is a measure used by traffic engineers to determine the effectiveness of transportation infrastructure. Level of service is most commonly used to analyze intersections by categorizing traffic flow with corresponding safe driving conditions. LOS A is considered the most efficient level of service and LOS F the least efficient.

Additionally, BAAQMD Regulation 7, *Odorous Substances*, states that no person shall discharge any odorous substance which causes the ambient air at or beyond the property line of such person to be odorous and to remain odorous after dilution with four parts of odor-free air. Therefore, odor impacts would be less than significant.

Cumulative Air Quality Impacts

The SFBAAB is currently designated as nonattainment for the state and federal ambient air quality standards for ground-level O_3 and $PM_{2.5}$ as well as for the state standards for PM_{10}. The air basin's nonattainment status is attributed to the region's development history. Past, present, and future development projects contribute to the region's adverse air quality impacts on a cumulative basis. By its very nature, air pollution is largely a cumulative impact. According to the BAAQMD, no single project is sufficient in size, by itself, to result in nonattainment of ambient air quality standards. Instead, a project's individual emissions contribute to existing cumulatively significant adverse air quality impacts. In developing thresholds of significance for air pollutants, the BAAQMD considered the emission levels for which a project's individual emissions would be cumulatively considerable. According to the air district, if a project exceeds its identified significance thresholds, the project would be cumulatively considerable. As previously demonstrated, the proposed project would not exceed BAAQMD thresholds for air pollutant emissions during construction or operations (see **Tables 2-6** and **2-7**). Therefore, since the project does not exceed BAAQMD significance thresholds, it would result in less than significant cumulative impacts.

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