4.4 AIR QUALITY

This section provides a discussion of existing air quality, evaluates potential air quality impacts associated with the proposed project, and identifies mitigation measures recommended for potentially significant adverse impacts. This section summarizes information provided in the *Air Quality Analysis for Newport Beach City Hall* (LSA Associates, Inc, August 2009). The *Air Quality Analysis Technical Report* is included in Appendix C of this Environmental Impact Report (EIR).

Scoping Process

The Initial Study/Notice of Preparation (IS/NOP) prepared for the proposed project identified potential significant adverse impacts related to conflict with air quality plans, violation of air quality standards, cumulatively considerable increase of criteria pollutants, exposure of sensitive receptors to substantial air quality pollutant concentrations, and creation of objectionable odors. Refer to the IS/NOP in Appendix A for additional discussion.

Two comment letters related to air quality impacts were received in response to the IS/NOP circulated for the proposed project. The South Coast Air Quality Management District (SCAQMD) recommended using the *California Environmental Quality Act* (CEQA) *Air Quality Handbook* (April 1993) as guidance for preparation of the air quality analysis and development of mitigation measures. It also stated that the EIR should analyze air quality impacts from both construction and operation and recommended calculating localized air quality impacts and comparing the results to localized significance thresholds (LSTs).

Two residents expressed concern regarding air quality and public health impacts to nearby residential areas from construction and traffic emissions. The letters recommended calculating construction emissions for each phase of construction based on the construction schedule and types of equipment to be used. They also recommended calculating emissions from sources other than traffic, such as landscaping activities, electricity generation, natural gas use, and community events. The comment letters also state that greenhouse gas (GHG) emissions and their potential impacts on climate change must be evaluated for both the construction and operational phases of the proposed project.

Copies of the IS/NOP comments are provided in Appendix A. The recommendations and concerns raised during the scoping process related to air quality are addressed in this EIR section. GHG emissions and climate change are addressed later in Section 4.8, Global Climate Change.

4.4.1 Methodology

Evaluation of air quality impacts associated with the proposed project included the following:

- Determine the short-term construction air quality impacts
- Determine the long-term air quality impacts resulting from emissions from vehicular traffic and stationary sources on off-site and on-site air quality-sensitive uses
- Determine mitigation measures required to reduce short- and long-term air quality impacts from all sources

The SCAQMD's current guidelines, included in its *Air Quality Handbook*, were adhered to in the assessment of air quality impacts for the proposed project. A number of air quality modeling tools were used to assess air quality impacts of projects. Construction emissions were calculated using an equipment list and schedule from C.W. Driver, the project's Construction Manager, and the URBEMIS2007 emission model (Version 9.2.4). The construction and operational LST analysis was conducted using the SCAQMD *Final Localized Significance Threshold Methodology* (June 2003). Long-term operational air emission impacts from stationary and vehicular sources were calculated using the URBEMIS2007 model. Finally, the intersection vehicle turn volumes were used in the California Department of Transportation (Caltrans) CALINE4 model to evaluate carbon monoxide (CO) impacts.

4.4.2 Existing Environmental Setting

The project site is in the City of Newport Beach, which is part of the South Coast Air Basin (Basin) and is under the jurisdiction of SCAQMD.

Climate/Meteorology. Air quality in the planning area is not only affected by various emission sources (mobile, industry, etc.) but also by atmospheric conditions such as wind speed, wind direction, temperature, and rainfall. The combination of topography, low mixing height, abundant sunshine, and emissions from the second largest urban area in the United States gives the Basin the worst air pollution problem in the nation.

Climate in the Basin is determined by its terrain and geographical location. The Basin is a coastal plain with connecting broad valleys and low hills. The Pacific Ocean forms the southwestern border, and high mountains surround the rest of the Basin. The Basin lies in the semipermanent high-pressure zone of the eastern Pacific; the resulting climate is mild and tempered by cool ocean breezes. This climatological pattern is rarely interrupted. However, periods of extremely hot weather, winter storms, and Santa Ana wind conditions do occur.

The annual average temperature varies little throughout the Basin, ranging from the low to middle 60s, measured in degrees Fahrenheit (°F). With a more pronounced oceanic influence, coastal areas show less variability in annual minimum and maximum temperatures than inland areas. The climatological station closest to the project site is the Newport Beach Harbor Station. The monthly average maximum temperature recorded at this station from January 1921 to December 2008 ranged from 63.1°F in January to 73.5°F in August, with an annual average maximum of 67.8 °F. The monthly average minimum temperature recorded at this station ranged from 46.8°F in January to 63.2°F in August, with an annual average minimum of 54.5°F. January is typically the coldest month, and August is typically the warmest month in this area of the Basin.

Most rainfall in the Basin occurs between November and April. Summer rainfall is minimal and is generally limited to scattered thundershowers in coastal regions and slightly heavier showers in the eastern part of the Basin and along the coastal side of the mountains. The Newport Beach Harbor Station monitored precipitation from January 1921 to December 2008. Average monthly rainfall during that period varied from 2.33 inches in February to 0.38 inch or less between May and October, with an annual total of 11.13 inches. Patterns in monthly and yearly rainfall totals are unpredictable due to fluctuations in the weather.

The Basin experiences a persistent temperature inversion (increasing temperature with increasing altitude) as a result of the Pacific High. This inversion limits the vertical dispersion of air contaminants, holding them relatively near the ground. As the sun warms the ground and the lower air layer, the temperature of the lower air layer approaches the temperature of the base of the inversion (upper) layer until the inversion layer finally breaks, allowing vertical mixing with the lower layer. This phenomenon is observed in mid-afternoon to late afternoon on hot summer days, when the smog appears to clear up suddenly. Winter inversions frequently break by mid-morning.

Winds in the Basin are predominantly with relatively low velocities. Wind speeds in the Basin average about 4 miles per hour (mph). Summer wind speeds average slightly higher than winter wind speeds. Low average wind speeds, together with a persistent temperature inversion, limit the vertical dispersion of air pollutants throughout the Basin. Strong, dry, north or northeasterly winds, known as Santa Ana winds, occur during the fall and winter months, dispersing air contaminants. The Santa Ana conditions tend to last for several days at a time.

The combination of stagnant wind conditions and low inversions produces the greatest pollutant concentrations. On days of no inversion or high wind speeds, ambient air pollutant concentrations are the lowest. During periods of low inversions and low wind speeds, air pollutants generated in urbanized areas are transported predominantly onshore into Riverside and San Bernardino Counties. In the winter, the greatest pollution problems are CO and oxides of nitrogen (NO_x), because of extremely low inversions and air stagnation during the night and early morning hours. In the summer, the longer daylight hours and the brighter sunshine combine to cause a reaction between hydrocarbons and NO_x to form photochemical smog

Air Pollution Constituents. Criteria air pollutants are those that are regulated by federal and state law. Both the State of California and the federal government have established health-based ambient air quality standards (AAQS) for these criteria air pollutants. Areas that meet AAQSs are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. Criteria pollutants are discussed in more detail below.

Ozone. O_3, (smog) is formed by photochemical reactions between NO_X and reactive organic gases (ROGs) rather than being directly emitted. O_3 is a pungent, colorless gas typical of Southern California smog. Elevated O_3 concentrations result in reduced lung function, particularly during vigorous physical activity. This health problem is particularly acute in sensitive receptors such as the sick, the elderly, and young children. O_3 levels peak during summer and early fall. Effective June 15, 2005, the United States Environmental Protection Agency (EPA) revoked in full the federal 1-hour O_3 ambient air quality standard, including associated designations and classifications, in all areas except 14 early-action compacts,[1] all outside California. The entire Basin is designated as a nonattainment area[2] for the State 1-hour O_3 standard. The EPA has designated the status in the Basin for the 8-hour O_3 standard as "Severe

[1] Early Action Compacts are agreements entered into between the EPA and communities that are working to get clean air as soon as possible by reducing ground-level ozone pollution.

[2] The EPA defines a nonattainment area as a locality where air pollution levels persistently exceed or fail to meet standards.

17," which means the Basin has until 2021 to attain the federal 8-hour O_3 standard. The SCAQMD has requested that the Basin's federal designation be changed from severe to extreme nonattainment. This change would extend the attainment deadline to 2023.

Carbon Monoxide. CO is formed by the incomplete combustion of fossil fuels, almost entirely from automobiles. It is a colorless, odorless gas that can cause dizziness, fatigue, and impairments to central nervous system functions. The entire Basin is designated as attainment/maintenance[1] for the federal standard and attainment for the State CO standard.

Nitrogen Oxides. Nitrogen dioxide (NO_2), a reddish brown gas, and nitric oxide (NO), a colorless, odorless gas, are formed from fuel combustion under high temperature or pressure. These compounds are referred to as NO_X. NO_X is a primary component of the photochemical smog reaction. It also contributes to other pollution problems, including a high concentration of fine particulate matter, poor visibility, and acid deposition (i.e., acid rain). NO_2 decreases the lung function and may reduce resistance to infection. The entire Basin has not exceeded either federal or State standards for NO_2 in the past 5 years. It is designated a maintenance area under federal standards and an attainment area under State standards.

Sulfur Dioxide. Sulfur dioxide (SO_2) is a colorless, irritating gas formed primarily from incomplete combustion of fuels containing sulfur. Industrial facilities also contribute to gaseous SO_2 levels. SO_2 irritates the respiratory tract, can injure lung tissue when combined with fine particulate matter, and reduces visibility and the level of sunlight. The entire Basin is in attainment with both the federal and State SO_2 standards.

Lead. Lead is found in old paints and coatings, plumbing, and a variety of other materials. Once in the bloodstream, lead can cause damage to the brain, nervous system, and other body systems. Children are highly susceptible to the effects of lead. The entire Basin is in attainment for the federal and State lead standards.

Particulate Matter. Particulate matter (PM) is the term used for a mixture of solid particles and liquid droplets found in the air. PM includes particulate matter with a diameter of 10 microns or less (PM_{10}) and particulate matter with a diameter of 2.5 microns or less ($PM_{2.5}$). Coarse particles, PM_{10}, derive from a variety of sources, including windblown dust and grinding operations. Fuel combustion and resultant exhaust from power plants and diesel buses and trucks are primarily responsible for fine particle, ($PM_{2.5}$) levels. Fine particles can also be formed in the atmosphere through chemical reactions. PM_{10} can accumulate in the respiratory system and aggravate health problems such as asthma. The EPA's scientific review concluded that $PM_{2.5}$, which penetrates deeply into the lungs, is more likely than PM_{10} to contribute to the types of health effects listed in a number of recently published community epidemiological studies at concentrations that extend well below those allowed by current PM_{10} standards. These health effects include premature

[1] An area in attainment of federal standards and required to test for maintenance of those standards.

death and increased hospital admissions and emergency room visits (primarily the elderly and individuals with cardiopulmonary disease); increased respiratory symptoms and disease (children and individuals with cardiopulmonary disease such as asthma); decreased lung functions (particularly in children and individuals with asthma); and alterations in lung tissue and structure and in respiratory tract defense mechanisms. The entire Basin is a nonattainment area for the federal and State PM_{10} and the federal $PM_{2.5}$ standards. The $PM_{2.5}$ nonattainment designation is effective from April 5, 2005, and the conformity determination requirements are effective from April 5, 2006. In the 2007 *Regional Air Quality Management Plan* (AQMP), the SCAQMD anticipated that the Basin will be in attainment for the $PM_{2.5}$ annual average federal air quality standard by the April 5, 2015, deadline.

Reactive Organic Compounds. Reactive organic compounds (ROCs) are formed from the combustion of fuels and evaporation of organic solvents. ROCs are not defined criteria pollutants but are a prime component of the photochemical smog reaction. Consequently, ROCs accumulate in the atmosphere more quickly during the winter, when sunlight is limited and photochemical reactions are slower. ROCs are also referred to as volatile organic compounds (VOCs).

Health Effects. Table 4.4.A lists the health effects of the criteria pollutants and their potential sources. Because the state and federal concentration standards were set at levels that protect public health with an adequate margin of safety, these health effects will not occur unless the standards are exceeded by a large margin or for a prolonged period of time.

Regional Air Quality

Both the State of California and the federal government have established health-based AAQS for the criteria air pollutants described previously. As discussed, areas that meet AAQSs are classified as attainment areas, while areas that do not meet these standards are classified as nonattainment areas. Table 4.4.B summarizes the attainment status in the Basin for the major criteria pollutants.

Local Air Quality

The SCAQMD, together with the California Air Resources Board (ARB), maintains ambient air quality monitoring stations in the Basin. The air quality monitoring station closest to the site is the Costa Mesa station, and its air quality trends are representative of the ambient air quality in the project area. Because the Costa Mesa Station does not monitor PM_{10} and $PM_{2.5}$ concentrations, the data from the Anaheim Station was used for this analysis. The pollutants monitored at the Costa Mesa Station are CO, O_3, PM_{10}, $PM_{2.5}$, NO_2, and SO_2.

The ambient air quality data in Table 4.4.C show that NO_2, SO_2, and CO levels are below the applicable State and federal AAQS. The State 1-hour O_3 standard was not exceeded in the past 3 years. The federal 8-hour O_3 standard was exceeded three times in 2008 in the past 3 years. The State 24-hour PM_{10} standard was exceeded from 3 to 7 days in each of the past 3 years and exceeded the federal 24-hour standard once in 2007. The federal 24-hour $PM_{2.5}$ standard was exceeded from 2 to 14

Table 4.4.A: Summary of Health and Other Effects of the Major Criteria Air Pollutants

Pollutants	Sources	Primary Effects
Ozone (O_3)	Atmospheric reaction of organic gases with nitrogen oxides in the presence of sunlight.	Aggravation of respiratory and cardiovascular diseases. Irritation of eyes. Impairment of cardiopulmonary function. Plant leaf injury.
Nitrogen Dioxide (NO_2)	Motor vehicle exhaust. High temperature stationary combustion. Atmospheric reactions.	Aggravation of respiratory illness. Reduced visibility. Reduced plant growth. Formation of acid rain.
Carbon Monoxide (CO)	By-products from incomplete combustion of fuels and other carbon containing substances, such as motor exhaust. Natural events, such as decomposition of organic matter.	Reduced tolerance for exercise. Impairment of mental function. Impairment of fetal development. Death at high levels of exposure. Aggravation of some heart diseases (angina).
Suspended Particulate Matter ($PM_{2.5}$ and PM_{10})	Stationary combustion of solid fuels. Construction activities. Industrial processes. Atmospheric chemical reactions.	Reduced lung function. Aggravation of the effects of gaseous pollutants. Aggravation of respiratory and cardiorespiratory diseases. Increased cough and chest discomfort. Soiling. Reduced visibility.
Sulfur Dioxide (SO_2)	Combustion of sulfur-containing fossil fuels. Smelting of sulfur-bearing metal ores. Industrial processes.	Aggravation of respiratory diseases (asthma, emphysema). Reduced lung function. Irritation of eyes. Reduced visibility. Plant injury. Deterioration of metals, textiles, leather, finishes, coatings, etc.
Lead	Contaminated soil (e.g., from leaded fuels and lead-based paints).	Impairment of blood function and nerve construction. Behavioral and hearing problems in children.

Source: *Air Quality Analysis*, LSA Associates, Inc. (August 2009).

Table 4.4.B: Attainment Status of Criteria Pollutants in the South Coast Air Basin

Pollutant	State	Federal
O_3 1-hour	Nonattainment	Revoked June 2005
O_3 8-hour	Nonattainment	Severe 17 Nonattainment
PM_{10}	Nonattainment	Serious Nonattainment[1]
$PM_{2.5}$	Nonattainment	Nonattainment[2]
CO	Attainment	Attainment/Maintenance[3]
NO_2	Attainment	Attainment/Maintenance
All others	Attainment/Unclassified	Attainment/Unclassified

Source: *Air Quality Analysis*, LSA Associates, Inc. (August 2009).

[1] In October 2006, the EPA, in its final rule revision, eliminated the annual PM_{10} standard.

[2] The $PM_{2.5}$ nonattainment designation is based on the 1997 standard. In 2006, the EPA revised the 24-hour standard. The 2006 $PM_{2.5}$ new standard of 35 $\mu g/m^3$ applies 1 year after the effective date of the new designation (April 2010).

[3] Effective June 11, 2007, the South Coast Air Basin was redesignated as attainment/maintenance for the federal CO standard.

CO = carbon monoxide
N/A = not applicable
NO_2 = nitrogen dioxide
O_3 = ozone
PM_{10} = particulate matter less than 10 microns in diameter
$PM_{2.5}$ = particulate matte less than 2.5 microns in diameter
$\mu g/m^3$ = microgram of pollutant per cubic meter of air

Table 4.4.C: Ambient Air Quality at the Costa Mesa and Anaheim Air Monitoring Stations

Pollutant	Standard	2008	2007	2006
Carbon Monoxide (CO)				
Maximum 1-hr concentration (ppm)		3.0	4.5	3.5
Number of days exceeded:	State: > 20 ppm	0	0	0
	Federal: > 35 ppm	0	0	0
Maximum 8-hr concentration (ppm)		2.0	3.1	3.0
Number of days exceeded:	State: ≥ 9.0 ppm	0	0	0
	Federal: ≥ 9 ppm	0	0	0
Ozone (O_3)				
Maximum 1-hr concentration (ppm)		0.094	0.082	0.074
Number of days exceeded:	State: > 0.09 ppm	0	0	0
Maximum 8-hr concentration (ppm)		0.079	0.072	0.062
	Federal: > 0.075 ppm	3	0	0
Coarse Particulates (PM_{10})				
Maximum 24-hr concentration ($\mu g/m^3$)		61	489	104
Number of days exceeded:	State: > 50 $\mu g/m^3$	3	6	7
	Federal: > 150 $\mu g/m^3$	0	1	0
Annual arithmetic average concentration ($\mu g/m^3$)		28.6	38.6	33.3
Exceeded for the year:	State: > 20 $\mu g/m^3$	Y	Y	Y
	Federal: > 50 $\mu g/m^3$	N	N	N
Fine Particulates ($PM_{2.5}$)				
Maximum 24-hr concentration ($\mu g/m^3$)		39.4	79.4	56.2
	Federal: > 35 $\mu g/m^3$	2	14	7
Annual arithmetic average concentration ($\mu g/m^3$)		12.1	14.4	14.0
Exceeded for the year:	State: > 12 $\mu g/m^3$	Y	Y	Y
	Federal: > 15 $\mu g/m^3$	N	N	N
Nitrogen Dioxide (NO_2)				
Maximum 1-hr concentration (ppm)		0.081	0.074	0.101
Number of days exceeded:	State: > 0.25 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.013	0.013	0.015
	Federal: > 0.053 ppm	N	N	N
Sulfur Dioxide (SO_2)				
Maximum 1-hr concentration (ppm)		0.009	0.029	0.012
	State: > 0.25 ppm	0	0	0
Maximum 3-hr concentration (ppm)		0.006	0.017	0.009
	Federal: > 0.5 ppm	0	0	0
Maximum 24-hr concentration (ppm)		0.003	0.004	0.005
Number of days exceeded:	State: > 0.04 ppm	0	0	0
	Federal: > 0.14 ppm	0	0	0
Annual arithmetic average concentration (ppm)		0.001	0.001	0.001
Exceeded for the year:	Federal: > 0.030 ppm	N	N	N

Source: *Air Quality Analysis*, LSA Associates, Inc. (August 2009).
ARB = California Air Resources Board
EPA = United States Environmental Protection Agency
hr = hour
ppm = parts per million
$\mu g/m^3$ = microgram of pollutant per cubic meter of air

days per year for the past 3 years. The State annual average $PM_{2.5}$ standard has been exceeded every year for the past 3 years.

4.4.3 Regulatory Setting

Federal Regulations and Policies. Pursuant to the federal Clean Air Act (CAA) of 1970, the EPA established national ambient air quality standards (NAAQS) for six major pollutants, termed criteria pollutants. Criteria pollutants are defined as those pollutants for which the federal and State governments have established AAQS, or criteria, for outdoor concentrations to protect public health. The NAAQS are shown in Table 4.4.D.

Data collected at permanent monitoring stations are used by the EPA to classify regions as attainment or nonattainment, depending on whether the regions met the requirements stated in the primary NAAQS. Nonattainment areas have additional restrictions as required by the EPA.

The EPA has designated the Southern California Association of Governments (SCAG) as the Metropolitan Planning Organization (MPO) responsible for ensuring the Basin's compliance with the CAA.

The EPA established new NAAQS for ground-level O_3 and $PM_{2.5}$ matter in 1997. On May 14, 1999, the Court of Appeals for the District of Columbia Circuit issued a decision ruling that the CAA, as applied in setting the new public health standards for O_3 and particulate matter, was unconstitutional as an improper delegation of legislative authority to the EPA. On February 27, 2001, the United States Supreme Court upheld the way the government sets air quality standards under the CAA. The Court unanimously rejected industry arguments that the EPA must consider financial cost as well as health benefits in writing standards. The justices also rejected arguments that the EPA took lawmaking power from Congress when it set tougher standards for O_3 and particulate matter in 1997. Nevertheless, the Court threw out the EPA's policy for implementing new O_3 rules, saying that the agency ignored a section of the law that restricts its authority to enforce such rules.

In April 2003, the EPA was cleared by the White House Office of Management and Budget (OMB) to implement the 8-hour ground-level O_3 standard. The EPA issued the proposed rule implementing the 8-hour O_3 standard in April 2003. The EPA completed final 8-hour nonattainment status on April 15, 2004. The EPA revoked the one-hour O_3 standard on June 15, 2005.

The EPA issued the final $PM_{2.5}$ implementation rule in fall 2004. The EPA issued final designations on December 14, 2004. The EPA lowered the 24-hour $PM_{2.5}$ standard from 65 to 35 micrograms per cubic meter ($\mu g/m^3$) and revoked the annual average PM_{10} standard in December 2006.

Table 4.4.D: Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards[1]		Federal Standards[2]		
		Concentration[3]	Method[4]	Primary[3,5]	Secondary[3,6]	Method[7]
Ozone (O_3)	1-Hour	0.09 ppm (180 µg/m^3)	Ultraviolet Photometry	—	Same as Primary Standard	Ultraviolet Photometry
	8-Hour	0.07 ppm (137 µg/m^3)		0.075 ppm (147 µg/m^3)		
Respirable Particulate Matter (PM_{10})	24-Hour	50 µg/m^3	Gravimetric or Beta Attenuation	150 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	20 µg/m^3		—		
Fine Particulate Matter ($PM_{2.5}$)	24-Hour	No Separate State Standard		35 µg/m^3	Same as Primary Standard	Inertial Separation and Gravimetric Analysis
	Annual Arithmetic Mean	12 µg/m^3	Gravimetric or Beta Attenuation	15 µg/m^3		
Carbon Monoxide (CO)	8-Hour	9.0 ppm (10 mg/m^3)	Non-Dispersive Infrared Photometry (NDIR)	9 ppm (10 mg/m^3)	None	Non-Dispersive Infrared Photometry (NDIR)
	1-Hour	20 ppm (23 mg/m^3)		35 ppm (40 mg/m^3)		
	8-Hour (Lake Tahoe)	6 ppm (7 mg/m^3)		—	—	—
Nitrogen Dioxide (NO_2)	Annual Arithmetic Mean	0.030 ppm (56 µg/m^3)	Gas Phase Chemiluminescence	0.053 ppm (100 µg/m^3)	Same as Primary Standard	Gas Phase Chemiluminescence
	1-Hour	0.18 ppm (338 µg/m^3)		—		
Sulfur Dioxide (SO_2)	Annual Arithmetic Mean	—	Ultraviolet Fluorescence	0.030 ppm (80 µg/m^3)	—	Spectrophotometry (Pararosaniline Method)
	24-Hour	0.04 ppm (105 µg/m^3)		0.14 ppm (365 µg/m^3)	—	
	3-Hour	—		—	0.5 ppm (1300 µg/m^3)	
	1-Hour	0.25 ppm (655 µg/m^3)		—	—	
Lead[8]	30 Day Average	1.5 µg/m^3	Atomic Absorption	—	—	High-Volume Sampler and Atomic Absorption
	Calendar Quarter	—		1.5 µg/m^3	Same as Primary Standard	
	Rolling 3-Month Average[9]	—		0.15 µg/m^3		
Visibility-Reducing Particles	8-Hour	Extinction coefficient of 0.23 per kilometer – visibility of ten miles or more (0.07-30 miles or more for Lake Tahoe) due to particles when relative humidity is less than 70 percent. Method: Beta Attenuation and Transmittance through Filter Tape.		**No Federal Standards**		
Sulfates	24-Hour	25 µg/m^3	Ion Chromatography			
Hydrogen Sulfide	1-Hour	0.03 ppm (42 µg/m^3)	Ultraviolet Fluorescence			
Vinyl Chloride[8]	24-Hour	0.01 ppm (26 µg/m^3)	Gas Chromatography			

Source: *Air Quality Analysis*, LSA Associates, Inc. (August 2009).

Footnotes:

[1] California standards for ozone; carbon monoxide (except Lake Tahoe); sulfur dioxide (1- and 24-hour); nitrogen dioxide; suspended particulate matter - PM_{10}, $PM_{2.5}$, and visibility reducing particles, are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

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

[3] Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25˚C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25˚C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.

[4] Any equivalent procedure that can be shown to the satisfaction of the ARB to give equivalent results at or near the level of the air quality standard may be used.

[5] National Primary Standards: The levels of air quality necessary, with an adequate margin of safety to protect the public health.

[6] National Secondary Standards: The levels of air quality necessary to protect the public welfare from any known or anticipated adverse effects of a pollutant.

[7] Reference method as described by the EPA. An “equivalent method” of measurement may be used but must have a “consistent relationship to the reference method” and must be approved by the EPA.

[8] The ARB has identified lead and vinyl chloride as ‘toxic air contaminants’ with no threshold level of exposure for adverse health effects determined. These actions allow for the implementation of control measures at levels below the ambient concentrations specified for these pollutants.

[9] National lead standard, rolling 3-month average: final rule signed October 15, 2008.

State Regulations and Policies. The State of California began to set California ambient air quality standards (CAAQS) in 1969 under the mandate of the Mulford-Carrell Act. The CAAQS are generally more stringent than the NAAQS. In addition to the six criteria pollutants covered by the NAAQS, there are CAAQS for sulfates, hydrogen sulfide, vinyl chloride, and visibility-reducing particles. These standards, along with the NAAQS, are previously shown in Table 4.4.D. In January 2007 the CAAQS for 1-hour NO_2 was reduced from 0.25 ppm to 0.18 ppm.

Originally, there were no attainment deadlines for CAAQS. However, the California Clean Air Act (CCAA) of 1988 provided a time frame and a planning structure to promote their attainment. The CCAA required nonattainment areas in the State to prepare attainment plans and proposed to classify each such area on the basis of the submitted plan, as follows: moderate, if CAAQS attainment could not occur before December 31, 1994; serious, if CAAQS attainment could not occur before December 31, 1997; and severe, if CAAQS attainment could not be conclusively demonstrated at all.

The attainment plans are required to achieve a minimum 5 percent annual reduction in the emissions of nonattainment pollutants unless all feasible measures have been implemented. The Basin is currently classified a nonattainment area for four criteria pollutants (O_3–1-hour, O_3–8-hour, PM_{10}, and $PM_{2.5}$).

Local Regulations and Policies. There are a number of local regulations and policies related to air quality, as described below.

Regional Air Quality Planning Framework. The 1976 Lewis Air Quality Management Act established the SCAQMD and other air districts throughout the State. The federal CAA Amendments of 1977 required that each state adopt an implementation plan outlining pollution control measures to attain the federal standards in nonattainment areas of the state.

The ARB coordinates and oversees both State and federal air pollution control programs in California. It oversees activities of local air quality management agencies and is responsible for incorporating air quality management plans for local air basins into a State Implementation Plan (SIP) for EPA approval. The ARB maintains air quality monitoring stations throughout the State in conjunction with local air districts. Data collected at these stations are used by the ARB to classify air basins as attainment or nonattainment with respect to each criteria pollutant and to monitor progress in attaining AAQS. The ARB has divided the State into 15 air basins. Significant authority for air quality control within them has been given to local air districts that regulate stationary source emissions and develop local nonattainment plans.

Regional Air Quality Management Plan. The SCAQMD and the SCAG are responsible for formulating and implementing the AQMP for the Basin. Every 3 years, the SCAQMD prepares a new AQMP, updating the previous plan and having a 20-year horizon. The SCAQMD adopted the 2003 AQMP in August 2003 and forwarded it to ARB for review and approval. The ARB approved a modified version of the 2003 AQMP and forwarded it to the EPA in October 2003 for review and approval.

The 2003 AQMP updates the attainment demonstration for the federal standards for O_3 and PM_{10}; replaces the 1997 attainment demonstration for the federal CO standard and provides a basis for a maintenance plan for CO for the future; and updates the maintenance plan for the federal NO_2 standard that the Basin has met since 1992. The 2003 AQMP proposes policies and measures to achieve federal and State standards for healthful air quality in the Basin.

This revision to the AQMP also addresses several State and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. This AQMP is consistent with and builds on the approaches taken in the 1997 AQMP and the 1999 Amendments to the ozone SIP for the Basin for the attainment of the federal O_3 AAQS. However, this revision points to the urgent need for additional emission reductions (beyond those incorporated in the 1997/1999 Plan) to offset increased emission estimates from mobile sources and meet all federal criteria pollutant standards within the time frames allowed under the federal CAA.

The SCAQMD adopted the 2007 AQMP on June 1, 2007, which it describes as a regional and multiagency effort (i.e., the SCAQMD Governing Board, ARB, SCAG, and EPA). State and federal planning requirements will include developing control strategies, attainment demonstration, reasonable further progress, and maintenance plans. The 2007 AQMP also incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes, and new air quality modeling tools. The ARB approved the 2007 AQMP on September 27, 2007, and adopted it as part of the 2007 SIP. The SCAQMD has forwarded the 2007 AQMP to the EPA for its review and approval.

City of Newport Beach Municipal Code. The City of Newport Beach Municipal Code does addresses air quality by establishing a special fund to receive revenue distributed by the SCAQMD. The SCAQMD imposes an additional vehicle registration fee, of which the City is eligible to receive a portion, to implement mobile source air pollution reduction programs.

City of Newport Beach General Plan (2006). The Natural Resources Element of the City's General Plan includes goals and polices related to air quality. The following goals and policies are applicable to the proposed project:

NR 6: Reduced mobile source emissions.

> **NR 6.3 Vehicle-Trip Reduction Measures.** Support measures to reduce vehicle-trip generation such as at-work day care facilities, and on-site automated banking machines. (Imp 1.2, 2.1)
>
> **NR 6.4 Transportation Demand Management Ordinance.** Implement the Transportation Demand Management (TDM) Ordinance, which promotes and encourages the use of alternative transportation modes, and provides those facilities such as bicycle lanes that support such alternate modes. (Imp 7.3, 16.8, 16.11)

NR 6.5 Local Transit Agency Collaboration. Collaborate with local transit agencies to: develop programs and educate employers about employee rideshare and transit; establish mass transit mechanisms for the reduction of work-related and non-work-related vehicle trips; promote mass transit ridership through careful planning of routes, headways, origins and destinations, and types of vehicles; and develop bus shelters, bicycle lanes, and other bicycle facilities. (Imp 14.4, 14.9, 16.8, 29.1)

NR 7: Reduced air pollutant emissions from stationary sources.

NR 7.1 Fuel Efficient Equipment. Support the use of fuel efficient heating equipment and other appliances. *(Imp 14.15)*

NR 7.2 Source Emission Reduction Best Management Practices. Require the use of Best Management Practices (BMP) to minimize pollution and to reduce source emissions. *(Imp 7.1)*

NR 8: Reduced air pollutant emissions from construction activities.

NR 8.1 Management of Construction Activities to Reduce Air Pollution. Require developers to use and operate construction equipment, use building materials and paints, and control dust created by construction activities to minimize air pollutants. (Imp 7.1)

4.4.4 Impact Significance Criteria

The thresholds for air quality impacts used in this analysis are consistent with Appendix G of the State CEQA Guidelines. The effects of the project related to air quality are considered to be significant if the proposed project would:

Threshold 4.4.1: Conflict with or obstruct implementation of the applicable air quality plan

Threshold 4.4.2: Violate any air quality standard or contribute to an existing or projected air quality violation

Threshold 4.4.3: Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)

Threshold 4.4.4: Expose sensitive receptors to substantial pollutant concentrations

Threshold 4.4.5: Create objectionable odors affecting a substantial number of people

SCAQMD Criteria

The Basin in which the proposed project site is located is administered by SCAQMD, and specific criteria for determining whether the potential air quality impacts of a project are significant are set forth in the SCAQMD *CEQA Air Quality Handbook*. In addition to the federal and State AAQS, there are daily and quarterly emissions thresholds for construction and operation of a proposed project in the Basin. It should be noted that the emission thresholds were established based on the attainment status of the Basin in regard to AAQS for specific criteria pollutants. Because the concentration standards were set at a level that protects public health with an adequate margin of safety, these emission thresholds are regarded as conservative and may overstate an individual project's contribution to health risks.

Thresholds for Construction Emissions

The following CEQA significance thresholds for construction emissions have been established by the SCAQMD for the Basin:

- 75 pounds per day (lbs/day) of ROCs
- 100 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}
- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Projects in the Basin with construction-related emissions that exceed any of the emission thresholds will be considered to result in significant adverse impacts under CEQA.

Thresholds for Operational Emissions

The daily operational emissions significance thresholds established by the SCAQMD for the Basin are as follows.

Emission Thresholds for Pollutants with Regional Effects. Projects with operations-related emissions that exceed any of the emission thresholds listed below are considered to result in significant adverse impacts under the SCAQMD guidelines:

- 55 lbs/day of ROCs
- 55 lbs/day of NO_X
- 550 lbs/day of CO
- 150 lbs/day of PM_{10}

- 55 lbs/day of $PM_{2.5}$
- 150 lbs/day of SO_X

Local Microscale Concentration Standards. The significance of localized project impacts under CEQA depends on whether ambient CO levels in the vicinity of the project are above or below the State and federal CO AAQS. If ambient levels are below the AAQS, a project is considered to have a significant adverse impact if project emissions result in an exceedance of one or more of these standards. If ambient levels already exceed a state or federal AAQS, project emissions are considered significant and adverse if they increase 1-hour CO concentrations by 1.0 part per million (ppm) or more or 8-hour CO concentrations by 0.45 ppm or more. The following are applicable local emission concentration standards for CO:

- California State 1-hour CO standard of 20.0 ppm
- California State 8-hour CO standard of 9.0 ppm

Thresholds for Localized Significance

The SCAQMD *Final Localized Significance Threshold Methodology* (June 2003) recommends that all air quality analyses include an assessment of both construction and operational impacts on the air quality of nearby sensitive receptors. LSTs represent the maximum emissions from a project site that are not expected to result in an exceedance of the national or state AAQS shown in Table 4.4-D. LSTs are based on the ambient concentrations of that pollutant within the project SRA and the distance to the nearest sensitive receptor. For this project, the appropriate SRA for the LST is the North Coastal Orange County area (Area 18). The project site is larger than 5 acres (ac); therefore, air dispersion modeling was performed to determine potential impacts from construction activities. The nearest sensitive receptors are residential uses to the east of the project site boundary approximately 166 feet (ft) (50 meters [m]) from the property line. Libraries are not considered a sensitive land use for air quality analysis in terms of standards because users are typically inside and are not expected to be outside for extended periods of time. Therefore, the following 50 m thresholds are used for the assessment of the proposed projects operational emissions.

Operational thresholds for a 5-acre site at 50 m:

- 190 lbs/day of NO_X
- 1,864 lbs/day of CO
- 11 lbs/day of PM_{10}
- 3 lbs/day of $PM_{2.5}$

4.4.5 Project Impacts

Threshold 4.4.1: Would the project conflict with or obstruct implementation of the applicable air quality plan?

Less than Significant. An AQMP describes air pollution control strategies to be taken by a city, county, or region classified as a nonattainment area. The main purpose of an AQMP is to bring the area into compliance with federal and State air quality standards. CEQA requires that certain proposed projects be analyzed for consistency with the AQMP. For a project to be consistent with the AQMP adopted by the SCAQMD, the pollutants emitted from operation of the project should not exceed SCAQMD daily threshold or cause a significant impact on air quality, or the project must already have been included in the AQMP projection. As shown below under the discussion of operational impacts, the proposed project emissions would be below the emissions thresholds established in SCAQMD's CEQA Handbook. Therefore, the project would not conflict with the AQMP, and no significant impact would result with respect to implementation of the AQMP. No further mitigation is required.

Threshold 4.4.2: Would the project violate any air quality standard or contribute to an existing or projected air quality violation?

OR

Threshold 4.4.3: Would the project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

OR

Threshold 4.4.4: Would the project expose sensitive receptors to substantial pollutant concentrations?

Construction Impacts.

Significant and Unavoidable.

Construction Emissions. Construction activities produce combustion emissions from various sources such as utility engines, on-site heavy-duty construction vehicles, equipment hauling materials to and from the site, asphalt paving, and motor vehicles transporting the construction crew. Exhaust emissions from the project construction activities on site would vary daily as construction activity levels change. The use of construction equipment on site would result in localized exhaust emissions.

Construction activities associated with new development occurring on site would temporarily increase localized PM_{10}, $PM_{2.5}$, ROC, NO_X, and CO concentrations in the project vicinity.

The primary sources of construction-related ROC and NO_X emissions are gasoline- and diesel-powered, heavy-duty mobile construction equipment such as scrapers and motor graders. Primary sources of PM_{10} and $PM_{2.5}$ emissions would be clearing activities, excavation and grading operations, construction vehicle traffic on unpaved ground, and wind blowing over exposed earth surfaces.

Emissions generated from construction activities are anticipated to cause temporary increases in pollutant concentrations that could contribute to the continuing violations of the federal and State maximum concentration standards. The frequency and concentrations of such violations would depend on several factors, including the soil composition on site, the amount of soil disturbed, wind speed, the number and type of machinery used, the construction schedule, and the proximity of other construction and demolition projects.

Based on the construction operation estimates provided by C.W. Driver (July 2009), grading the project site would require the removal of approximately 320,000 cubic yards (cy) of material. As described in the Project Description and illustrated in Figure 3.17, the analysis in this EIR assumes that excavated material would be hauled approximately 32 mi to the Prima Deshecha Landfill for disposal. Because a specific disposal site has not been identified at this time, hauling the excavated material to Prima Deshecha Landfill was assumed in this analysis as the reasonable worst-case condition. Table 4.4.E lists the construction emissions estimates. The construction emissions were calculated using an equipment list and schedule from C.W. Driver and the URBEMIS2007 emission model. Based on the construction schedule, building construction would not begin until after the mass grading has been completed. Table 4.4.E shows that construction equipment/vehicle emissions would exceed the SCAQMD NO_X and ROC thresholds during the grading phase and would exceed the ROC threshold during architectural coating. Construction equipment/vehicle emissions would not exceed SCAQMD thresholds for CO or SO_X.

Table 4.4.E: Peak-Day Construction Emissions (lbs/day) by Phase[1]

Construction Phase	CO	ROC	NO_X	SO_X	PM_{10}[2]	$PM_{2.5}$
Mass grading	382.4	75.2	939.2	0.9	94.7	49.6
Fine grading	20.5	4.7	37.8	0.0	52.2	10.5
Trenching	9.7	2.4	20.2	0.0	1.0	0.9
Paving	13.5	4.7	23.1	0.0	1.7	1.6
Building	54.7	5.6	22.2	0.1	1.7	1.5
Architectural coating	1.6	123.4	0.1	0.0	0.0	0.0
SCAQMD Emission Threshold	**550**	**75**	**100**	**150**	**150**	**55**
Exceed Significance?	**NO**	**YES**	**YES**	**NO**	**NO**	**NO**

Source: *Air Quality Analysis*, LSA Associates, Inc. (August 2009).
[1] It is assumed that there is no overlap of these construction phases.
[2] Total PM_{10} daily emission rate with fugitive dust mitigation measures implemented.

CO = carbon monoxide
CO_2 = carbon dioxide
lbs/day = pounds per day
NA = not applicable
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ROC = reactive organic compounds
SCAQMD = South Coast Air Quality Management District
SO_X = sulfur oxides

Fugitive Dust. Fugitive dust emissions are generally associated with land clearing, exposure, and cut-and-fill operations. Dust generated daily during construction would vary substantially, depending on the level of activity, the specific operations, and weather conditions. Nearby sensitive receptors and on-site workers may be exposed to blowing dust, depending on prevailing wind conditions. Fugitive dust also would be generated as construction equipment or trucks travel on unpaved areas of the construction site.

$PM_{2.5}$ and PM_{10} emissions from grading operations during a peak construction day were calculated using the URBEMIS2007 model and are included in the emissions listed in Table 4.4.E. As shown in Table 4.4.E, $PM_{2.5}$ and PM_{10} emissions from grading operations during a peak construction day are not anticipated to exceed the SCAQMD thresholds. No mitigation is required.

Localized Significance Analysis. Table 4.4.F lists the construction-related LSTs for the North Coastal Orange County area as calculated using AERMOD air dispersion modeling and the ambient pollutant concentrations as shown in Table 4.4.C, following the SCAQMD LST methodology. These concentrations were calculated at the existing residences east of the project site across MacArthur Boulevard. The emissions included in the dispersion analysis include all on-site construction equipment emissions and a percentage of the haul truck trip emissions. The haul truck trip percentage is based on the distance that the trucks will travel on site. For the purposes of the LST analysis, it is assumed that the haul trucks will travel 1 mi on site. As shown in Table 4.4.F, the resulting concentrations of PM_{10} would exceed the LST threshold.

Summary of Construction Emissions. Based on the above information, with implementation of feasible measures during construction of the proposed project, emissions from construction equipment exhaust and soil disturbance would be minimized; however, construction emissions from the project would exceed the SCAQMD daily emissions thresholds for NO_X and ROC, and resulting concentrations of PM_{10} would exceed the LST threshold. Construction equipment/ vehicle emissions would not exceed the SCAQMD thresholds for CO or SO_X. Mitigation measures 4.4.1 through 4.4.8 would be required to reduce NO_X, ROC, and PM_{10} emissions; however, even with implementation of all available mitigation measures, project impacts related to construction emissions would remain significant and unavoidable.

Operational Impacts.

Less than Significant.

Long-Term Regional Air Quality Impacts. Long-term regional air quality impacts are based on the daily operational emissions significance thresholds established by the SCAQMD. Operations-related emissions are not to exceed 55 lbs/day of ROCs, 55 lbs/day of NO_X, 550 lbs/day of CO, 150 lbs/day of PM_{10}, 55 lbs/day of $PM_{2.5}$, and 150 lbs/day of SO_X.

Table 4.4.F: Construction LST Modeling Results

Category	Maximum Increase in Ambient Concentrations for Off-Site Sensitive Receptors During Project Construction
PM_{10} (24-hour Average)	
Maximum Concentration Increase ($\mu g/m^3$)	42.8
Threshold ($\mu g/m^3$)	10.4
Over/(Under)	32.4
Adverse Concentration	Yes
$PM_{2.5}$ (24-hour Average)	
Maximum Concentration Increase ($\mu g/m^3$)	8.81
Threshold ($\mu g/m^3$)	10.4
Over/(Under)	(1.6)
Adverse Concentration	No
NO_2 (1-hour Average)	
Maximum Concentration Increase ($\mu g/m^3$)	71
Threshold ($\mu g/m^3$) (AAQS – ambient)	149
Over/(Under)	(78)
Adverse Concentration	No
CO (1-Hour Average)	
Maximum Concentration Increase ($\mu g/m^3$)	570
Threshold ($\mu g/m^3$) (AAQS – ambient)	17,857
Over/(Under)	(17,287)
Adverse Concentration	No
CO (8-Hour Average)	
Maximum Concentration Increase ($\mu g/m^3$)	94
Threshold ($\mu g/m^3$) (AAQS – ambient)	6,457
Over/(Under)	(6,363)
Adverse Concentration	No

Source: *Air Quality Analysis*, LSA Associates, Inc. (August 2009).
AAQS = ambient air quality standards
CO = carbon monoxide
$\mu g/m^3$ = microgram of pollutant per cubic meter of air
NO_2 = nitrogen dioxide
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
PM_{10} = particulate matter less than 10 microns in size

Long-term air emission impacts are those associated with stationary sources and mobile sources related to any long-term change as a result of the proposed project. The proposed development would consist of a City Hall, parking structure, expanded library, and park facilities. The stationary source emissions from these land uses would come from consumption of natural gas and electricity.[1] Using the URBEMIS2007 model, emissions associated with project-related stationery sources were calculated and are shown in Table 4.4.G as area source emissions.

Table 4.4.G: Operational Emissions

Source	Pollutants, lbs/day					
	CO	**ROCs**	**NO_X**	**SO_2**	**PM_{10}**	**$PM_{2.5}$**
2012 Summer Emissions						
Area Source Emissions	5.33	1.10	0.88	0.00	0.02	0.02
Operational (Vehicle) Emissions	245.11	18.84	27.46	0.30	48.87	9.50
Total Summer Emissions	**250.44**	**19.94**	**28.34**	**0.30**	**48.89**	**9.52**
2012 Winter Emissions						
Area Source Emissions	0.69	0.73	0.82	0.00	0.00	0.00
Operational (Vehicle) Emissions	234.99	21.08	33.05	0.25	48.87	9.50
Total Winter Emissions	**235.68**	**21.81**	**33.87**	**0.25**	**48.87**	**9.50**
SCAQMD Threshold	**550**	**55**	**55**	**150**	**150**	**55**
Exceed SCAQMD Threshold?[1]	**No/No**	**No/No**	**No/No**	**No/No**	**No/No**	**No/No**

Source: LSA Associates, Inc., August 2009.
[1] Reporting status for summer/winter scenarios.
CO = carbon monoxide
lbs/day = pounds per day
NA = not applicable
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size
ROCs = reactive organic compounds
SCAQMD = South Coast Air Quality Management District
SO_2 = sulfur dioxide

Based on the traffic study for this project (RBF Consulting, July 2009), the proposed project would generate 3,070 daily trips. Using the default emission factors in URBEMIS2007 (Version 9.2.4), emissions associated with project-related vehicular trips were calculated and are shown in Table 4.4.G.

As shown in Table 4.4.G, the project's emissions (both stationary sources and vehicular sources) would not exceed the SCAQMD daily emissions thresholds. Therefore, the long-term air quality impacts of the proposed project would be less than significant, and no mitigation is required.

Long-Term Microscale (CO Hot Spot) Analysis. The long-term microscale analysis is based on the California State 1-hour CO emission concentration standard of 20.0 ppm and the California State 8-hour CO emission concentration standard of 9.0 ppm.

[1] An emergency generator is included in the proposed project. However, emergency generator testing, although done periodically, is usually short term (e.g., an hour a month) and is typically not included in the analysis. However, landscaping activities are captured in the URBEMIS model run results under long-term operational emissions.

Vehicular trips associated with the proposed project would contribute to the congestion at intersections and along road segments in the project vicinity. Localized air quality effects would occur when emissions from vehicular traffic increase in local areas as a result of the proposed project. The primary mobile source pollutant of local concern is CO, which is a direct function of vehicle idling time and, therefore, traffic flow conditions. CO transport is extremely limited; it disperses rapidly with distance from the source under normal meteorological conditions. However, under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels affecting local sensitive receptors (residents, school children, the elderly, hospital patients, etc). Typically, high CO concentrations are associated with roads or intersections operating at unacceptable levels of service or with extremely high traffic volumes. In areas with high ambient background CO concentration, modeling is recommended to determine a project's effect on local CO levels.

The intersection vehicle turn volumes were used in the Caltrans CALINE4 model to evaluate local CO concentrations at intersections most affected by project traffic. Per EPA guidelines, the highest concentrations of the second-highest CO concentrations measured within the past 3 years were used as the background levels. At the Costa Mesa Station, the background concentrations are 4.4 ppm for the 1-hour period and 2.6 ppm for the 8-hour period.

The traffic analysis evaluated the existing (2009), project build out (2013), and General Plan build-out traffic conditions in the project vicinity. To determine the proposed project's impact on the local air quality, the CO levels were modeled at nine intersections in the project area. These nine intersections represent the intersections with the highest traffic volumes in the project area. Tables 4.4.H, 4.4.I, and 4.4.J list the CO concentrations that would result at the nine intersections for 2009, 2013, and General Plan build-out conditions, respectively.

As shown in Tables 4.4.H, 4.4.I, and 4.4.J, none of the nine intersections analyzed would have 8-hour CO concentration exceeding the federal and State AAQS of 9 ppm. The 1-hour CO concentration at these intersections would also be below the State AAQS of 20.0 ppm and below the federal AAQS of 35 ppm. The proposed project would contribute at most 0.2 ppm to the 1-hour and 0.1 ppm to the 8-hour CO concentrations at these intersections. The proposed project would have a less than significant impact on local air quality for CO, and no mitigation would be required.

Localized Significance. The following analysis was performed per SCAQMD *Final Localized Significance Threshold Methodology* (June 2003). The closest sensitive receptor to the project site is located to the east at a distance of approximately 166 ft (50 m). Thus, the following LST thresholds for 50 m were used: 190 lbs/day of NO_X, 1,864 lbs/day of CO, 11 lbs/day of PM_{10}, and 3 lbs/day of $PM_{2.5}$.

Table 4.4.K shows the calculated emissions for the proposed operational activities (fully described above) compared to the LSTs for the North Coastal Orange County area. The localized significance analysis is only supposed to include on-site sources; therefore, the emissions shown include all stationary and only 10 percent of the proposed project's mobile sources.

Table 4.4.H: Existing (2009) CO Concentrations[1]

Intersection	Receptor to Road Centerline Distance (Meters)	Project Related Increase 1-Hour/8-Hour (ppm)	Without/With Project 1-Hour CO Concentration (ppm)	Without/With Project 8-Hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr (20.0 ppm)	8-Hr (9.0 ppm)
Avocado and Coast Highway	14 / 14	0.0 / 0.0	6.6 / 6.6	4.1 / 4.1	No	No
	21 / 21	0.0 / 0.0	6.5 / 6.5	4.1 / 4.1	No	No
	14 / 14	0.0 / 0.0	6.4 / 6.4	4.0 / 4.0	No	No
	19 / 19	0.0 / 0.0	6.4 / 6.4	4.0 / 4.0	No	No
Avocado and San Miguel Drive	14 / 14	0.2 / 0.1	5.8 / 6.0	3.6 / 3.7	No	No
	14 / 14	0.1 / 0.1	5.6 / 5.7	3.4 / 3.5	No	No
	14 / 14	0.1 / 0.1	5.6 / 5.7	3.4 / 3.5	No	No
	14 / 14	0.1 / 0.0	5.5 / 5.6	3.4 / 3.4	No	No
Jamboree Road and Coast Highway	17 / 17	0.0 / 0.0	7.5 / 7.5	4.8 / 4.8	No	No
	14 / 14	0.0 / 0.0	7.5 / 7.5	4.8 / 4.8	No	No
	15 / 15	0.0 / 0.0	7.4 / 7.4	4.7 / 4.7	No	No
	17 / 17	0.0 / 0.0	7.0 / 7.0	4.4 / 4.4	No	No
Jamboree Road and San Joaquin Hills	16 / 21	0.1 / 0.1	6.1 / 6.2	3.8 / 3.9	No	No
	16 / 24	0.1 / 0.1	6.1 / 6.2	3.8 / 3.9	No	No
	21 / 15	0.0 / 0.0	6.1 / 6.1	3.8 / 3.8	No	No
	24 / 16	0.0 / 0.0	6.1 / 6.1	3.8 / 3.8	No	No
MacArthur Boulevard and Coast Highway	7 / 7	0.1 / 0.1	7.6 / 7.7	4.8 / 4.9	No	No
	15 / 15	0.0 / 0.0	7.5 / 7.5	4.8 / 4.8	No	No
	7 / 7	0.0 / 0.0	7.3 / 7.3	4.6 / 4.6	No	No
	15 / 15	0.0 / 0.0	7.3 / 7.3	4.6 / 4.6	No	No
MacArthur Boulevard and Ford/Bonita Canyon	19 / 19	0.0 / 0.0	7.4 / 7.4	4.7 / 4.7	No	No
	21 / 21	0.1 / 0.1	7.3 / 7.4	4.6 / 4.7	No	No
	28 / 28	0.0 / 0.0	7.2 / 7.2	4.6 / 4.6	No	No
	28 / 28	0.0 / 0.0	7.0 / 7.0	4.4 / 4.4	No	No
MacArthur Boulevard and San Joaquin Hills	20 / 20	0.0 / 0.0	7.0 / 7.0	4.4 / 4.4	No	No
	21 / 21	0.0 / 0.0	7.0 / 7.0	4.4 / 4.4	No	No
	17 / 22	0.1 / 0.0	6.9 / 7.0	4.4 / 4.4	No	No
	24 / 17	0.0 / 0.0	6.9 / 6.9	4.4 / 4.4	No	No
MacArthur Boulevard and San Miguel Drive	17 / 17	0.1 / 0.1	6.8 / 6.9	4.3 / 4.4	No	No
	19 / 19	0.1 / 0.1	6.4 / 6.5	4.0 / 4.1	No	No
	17 / 17	0.1 / 0.1	6.3 / 6.4	3.9 / 4.0	No	No
	21 / 17	0.1 / 0.1	6.3 / 6.4	3.9 / 4.0	No	No
Marguerite and Coast Highway	12 / 12	0.1 / 0.1	6.7 / 6.8	4.2 / 4.3	No	No
	17 / 17	0.1 / 0.1	6.6 / 6.7	4.1 / 4.2	No	No
	14 / 12	0.0 / 0.0	6.5 / 6.5	4.1 / 4.1	No	No
	12 / 14	0.1 / 0.1	6.4 / 6.5	4.0 / 4.1	No	No

Source: LSA Associates, Inc., August 2009.

[1] Includes ambient 1-hour concentration of 4.4 ppm and ambient 8-hour concentration of 2.6 ppm. Measured at the Costa Mesa Monitoring Station.

ppm = parts per million

Table 4.4.I: 2013 Project Build-out CO Concentrations[1]

Intersection	Receptor to Road Centerline Distance (Meters)	Project Related Increase 1-Hour/8-Hour (ppm)	Without/With Project 1-Hour CO Concentration (ppm)	Without/With Project 8-Hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr (20.0 ppm)	8-Hr (9.0 ppm)
Avocado and Coast Highway	14 / 14	0.0 / 0.0	6.3 / 6.3	3.9 / 3.9	No	No
	21 / 21	0.0 / 0.0	6.3 / 6.3	3.9 / 3.9	No	No
	19 / 19	0.0 / 0.0	6.2 / 6.2	3.9 / 3.9	No	No
	14 / 14	0.0 / 0.0	6.0 / 6.0	3.7 / 3.7	No	No
Avocado and San Miguel Drive	14 / 14	0.1 / 0.1	5.4 / 5.5	3.3 / 3.4	No	No
	14 / 14	0.1 / 0.1	5.3 / 5.4	3.2 / 3.3	No	No
	14 / 14	0.2 / 0.1	5.2 / 5.4	3.2 / 3.3	No	No
	14 / 14	0.1 / 0.0	5.2 / 5.3	3.2 / 3.2	No	No
Jamboree Road and Coast Highway	14 / 17	0.0 / 0.0	7.0 / 7.0	4.4 / 4.4	No	No
	17 / 14	0.1 / 0.0	6.9 / 7.0	4.4 / 4.4	No	No
	15 / 15	0.0 / 0.0	6.8 / 6.8	4.3 / 4.3	No	No
	26 / 26	0.1 / 0.0	6.5 / 6.6	4.1 / 4.1	No	No
Jamboree Road and San Joaquin Hills	21 / 21	0.1 / 0.0	5.9 / 6.0	3.7 / 3.7	No	No
	24 / 17	0.0 / 0.0	5.9 / 5.9	3.7 / 3.7	No	No
	15 / 24	0.1 / 0.1	5.8 / 5.9	3.6 / 3.7	No	No
	16 / 15	0.0 / 0.0	5.8 / 5.8	3.6 / 3.6	No	No
MacArthur Boulevard and Coast Highway	7 / 7	0.1 / 0.1	7.0 / 7.1	4.4 / 4.5	No	No
	15 / 15	0.0 / 0.0	6.9 / 6.9	4.4 / 4.4	No	No
	7 / 7	0.0 / 0.0	6.7 / 6.7	4.2 / 4.2	No	No
	15 / 15	0.0 / 0.0	6.6 / 6.6	4.1 / 4.1	No	No
MacArthur Boulevard and Ford/Bonita Canyon	19 / 19	0.1 / 0.0	6.5 / 6.6	4.1 / 4.1	No	No
	21 / 21	0.1 / 0.0	6.5 / 6.6	4.1 / 4.1	No	No
	28 / 28	0.0 / 0.0	6.4 / 6.4	4.0 / 4.0	No	No
	31 / 31	0.0 / 0.0	6.2 / 6.2	3.9 / 3.9	No	No
MacArthur Boulevard and San Joaquin Hills	24 / 24	0.0 / 0.0	6.3 / 6.3	3.9 / 3.9	No	No
	28 / 23	0.0 / 0.0	6.2 / 6.2	3.9 / 3.9	No	No
	23 / 28	0.1 / 0.1	6.1 / 6.2	3.8 / 3.9	No	No
	17 / 17	0.0 / 0.0	6.1 / 6.1	3.8 / 3.8	No	No
MacArthur Boulevard and San Miguel Drive	17 / 17	0.0 / 0.0	6.3 / 6.3	3.9 / 3.9	No	No
	19 / 19	0.1 / 0.0	5.9 / 6.0	3.7 / 3.7	No	No
	24 / 24	0.0 / 0.0	5.9 / 5.9	3.7 / 3.7	No	No
	17 / 17	0.0 / 0.0	5.8 / 5.8	3.6 / 3.6	No	No
Marguerite and Coast Highway	12 / 12	0.1 / 0.1	6.3 / 6.4	3.9 / 4.0	No	No
	17 / 17	0.0 / 0.0	6.3 / 6.3	3.9 / 3.9	No	No
	12 / 12	0.0 / 0.0	6.2 / 6.2	3.9 / 3.9	No	No
	14 / 14	0.0 / 0.0	6.2 / 6.2	3.9 / 3.9	No	No

Source: LSA Associates, Inc., August 2009.
[1] Includes ambient 1-hour concentration of 4.4 ppm and ambient 8-hour concentration of 2.6 ppm. Measured at the Costa Mesa Monitoring Station.
ppm = parts per million

Table 4.4.J: General Plan Build-out CO Concentrations[1]

Intersection	Receptor to Road Centerline Distance (Meters)	Project Related Increase 1-Hour/8-Hour (ppm)	Without/With Project 1-Hour CO Concentration (ppm)	Without/With Project 8-Hour CO Concentration (ppm)	Exceeds State Standards	
					1-Hr (20.0 ppm)	8-Hr (9.0 ppm)
Avocado and Coast Highway	14 / 14	0.0 / 0.0	5.0 / 5.0	3.0 / 3.0	No	No
	14 / 14	0.0 / 0.0	5.0 / 5.0	3.0 / 3.0	No	No
	19 / 14	0.0 / 0.0	5.0 / 5.0	3.0 / 3.0	No	No
	19 / 19	0.0 / 0.0	5.0 / 5.0	3.0 / 3.0	No	No
Avocado and San Miguel Drive	14 / 14	0.0 / 0.0	4.9 / 4.9	3.0 / 3.0	No	No
	14 / 14	0.1 / 0.1	4.8 / 4.9	2.9 / 3.0	No	No
	14 / 14	0.0 / 0.0	4.8 / 4.8	2.9 / 2.9	No	No
	14 / 14	0.0 / 0.0	4.8 / 4.8	2.9 / 2.9	No	No
Jamboree Road and Coast Highway	17 / 17	0.0 / 0.0	5.4 / 5.4	3.3 / 3.3	No	No
	14 / 14	0.0 / 0.0	5.4 / 5.4	3.3 / 3.3	No	No
	15 / 15	0.0 / 0.0	5.3 / 5.3	3.2 / 3.2	No	No
	26 / 26	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
Jamboree Road and San Joaquin Hills	15 / 15	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	24 / 16	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	17 / 24	0.1 / 0.1	5.1 / 5.2	3.1 / 3.2	No	No
	16 / 17	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
MacArthur Boulevard and Coast Highway	7 / 7	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	15 / 15	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	7 / 7	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	15 / 15	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
MacArthur Boulevard and Ford/Bonita Canyon	19 / 19	0.0 / 0.0	5.3 / 5.3	3.2 / 3.2	No	No
	21 / 21	0.0 / 0.0	5.3 / 5.3	3.2 / 3.2	No	No
	21 / 21	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	28 / 28	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
MacArthur Boulevard and San Joaquin Hills	23 / 23	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	24 / 24	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	17 / 17	0.0 / 0.0	5.2 / 5.2	3.2 / 3.2	No	No
	15 / 15	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
MacArthur Boulevard and San Miguel Drive	17 / 17	0.0 / 0.0	5.1 / 5.1	3.1 / 3.1	No	No
	17 / 17	0.0 / 0.0	5.0 / 5.0	3.0 / 3.0	No	No
	19 / 19	0.0 / 0.0	5.0 / 5.0	3.0 / 3.0	No	No
	21 / 21	0.0 / 0.0	5.0 / 5.0	3.0 / 3.0	No	No
Marguerite and Coast Highway	12 / 12	0.1 / 0.1	5.0 / 5.1	3.0 / 3.1	No	No
	12 / 12	0.0 / 0.0	5.0 / 5.0	3.0 / 3.0	No	No
	12 / 12	0.0 / 0.0	5.0 / 5.0	3.0 / 3.0	No	No
	15 / 15	0.0 / 0.0	5.0 / 5.0	3.0 / 3.0	No	No

Source: LSA Associates, Inc., August 2009.
[1] Includes ambient 1-hour concentration of 4.4 ppm and ambient 8-hour concentration of 2.6 ppm. Measured at the Costa Mesa Monitoring Station.
ppm = parts per million

Table 4.4.K: Summary of Operation Emissions, Localized Significance

	Emission Rates (lbs/day)			
	CO	**NO_X**	**PM_{10}**	**$PM_{2.5}$**
Proposed Project	29.7	4.1	4.9	0.9
Localized Significance Threshold	**1,864**	**190**	**11**	**3**
Exceed Significance?	**No**	**No**	**No**	**No**

Source: *Air Quality Analysis*, LSA Associates, Inc. (August 2009).
CO = carbon monoxide
lbs/day = pounds per day
NO_X = nitrogen oxides
PM_{10} = particulate matter less than 10 microns in size
$PM_{2.5}$ = particulate matter less than 2.5 microns in size

Table 4.4.K shows that all operational emission rates are below the LST thresholds at 50 meters. Therefore, the proposed operational activity would result in a less than significant localized significant air quality impacts.

General Plan Consistency.

Less than Significant. The proposed project is consistent with relevant Air Quality Goals and Policies contained in the City's General Plan (2006). The proposed project would provide preferential parking for carpools, bicycle lockers, and showers, and would be located near an OCTA bus stop and the Newport Transportation Center consistent with General Plan Policies NR 6.4 and 6.5. The City also has existing programs to promote commuter carpooling and transit use by City staff. In addition, tenant space would be made available for credit union functions and an automated banking machine (i.e., an ATM), consistent with Policy NR 6.3.

The stationary source emissions from the proposed land uses would come primarily from consumption of natural gas and electricity. The proposed project implements LEED-NC Silver strategies so that energy consumption reduction exceeds Title 24 requirements. Incorporation of LEED-NC Silver strategies would minimize pollution and reduce source emissions consistent with Policies NR 7.1 and 7.2.

Mitigation Measures 4.4.1 through 4.4.8 have been included in this EIR to require the construction contractor to manage construction equipment and construction activities in ways that would reduce air pollution. Although the proposed project would result in a significant impact related to construction air quality, the inclusion of these measures is consistent with existing General Plan policies, and no additional mitigation is required.

Threshold 4.4.5: Would the project create objectionable odors affecting a substantial number of people?

Less than Significant.

Construction Impacts. Some objectionable odors may emanate from the operation of diesel-powered construction equipment during the construction of the proposed project. These odors, however, would be limited to the short-term construction period of the project and are not expected to be substantial; therefore, they would be less than significant. No mitigation is required.

Operational Impacts. An approximate 0.5-acre dog park is proposed as part of the proposed project. This small park will be located approximately 200 ft west of the existing residences in the area and will be separated from the residences by MacArthur Boulevard. A Water Quality Management Plan (WQMP) is a project design feature and a regulatory requirement that would be implemented for the proposed project to reduce or avoid impacts related to water quality (see PDF WQ-3, Section 4.10, Hydrology and Water Quality). The WQMP would include an activity restriction applicable to the proposed dog park. This restriction would include a requirement for pet owners to remove pet feces. Therefore, implementation of the proposed project would not add any long-term odor sources to the project area. Project impacts would be less than significant, and no mitigation is required.

4.4.6 Cumulative Impacts

Significant and Unavoidable (Construction). The proposed project area is currently in nonattainment for O_3, PM_{10}, and $PM_{2.5}$. As shown previously in Table 4.4.E, construction emissions would exceed the SCAQMD threshold for NO_X and ROC (O_3 precursors). In addition, PM_{10} concentrations in the project area during grading would exceed the LST threshold. The project's contribution to local and regional air pollutants related to construction emissions would be significant and adverse. Therefore, implementation of the proposed project would contribute to significant short-term cumulative adverse air quality impacts, and mitigation would be required. Even with implementation of all available mitigation measures (Mitigation Measures 4.4.1 through 4.4.8), the project's contribution to short-term cumulative construction air quality impacts would remain significant and unavoidable.

For a project to be consistent with the AQMP adopted by the SCAQMD, the pollutants emitted from the project should not exceed SCAQMD daily threshold or cause a significant impact on air quality, or the project must already have been included in the AQMP projection. As shown previously in Table 4.4.G, the proposed project's operational emissions would not exceed the SCAQMD's long-term emission thresholds. Therefore, the project would not contribute to a long-term cumulative adverse air quality impact. No mitigation is required.

4.4.7 Level of Significance Prior to Mitigation

The following air quality impacts are less than significant and do not require mitigation: (1) consistency with air quality plans, (2) operational emissions, and (3) objectionable odors.

The following project and cumulative construction air quality impacts are considered potentially significant prior to mitigation: (1) NO_X emissions would exceed SCAQMD thresholds during the grading phase, (2) ROC emissions would exceed SCAQMD thresholds threshold during the grading phase and architectural coating, and (3) PM_{10} concentrations would exceed LST thresholds during grading.

4.4.8 Mitigation Measures

Mitigation Measure 4.4.1 **SCAQMD Rules 402 and 403.** The City of Newport Beach shall ensure that the project complies with South Coast Air Quality Management District (SCAQMD) Rules 402 and 403 to assist in reducing short-term air pollutant emissions. Rule 403 requires that fugitive dust be controlled with best available control measures so that the presence of such dust does not remain visible in the atmosphere beyond the property line of the emission source. Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off site. Applicable dust suppression techniques from Rule 403 are summarized below. Prior to commencement of grading activities, the Director of the City of Newport Beach Planning Department or designee shall ensure that notes are included on grading and construction plans and referenced in the construction contractor's agreement that the construction contractor shall be responsible for compliance with Rules 402 and 403.

The applicable Rule 403 measures are as follows:

- 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 twice daily. (Locations where grading is to occur will be thoroughly watered prior to earthmoving.)
- All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least 2 feet (ft) of freeboard in accordance with the requirements of California Vehicle Code (CVC) Section 23114 (freeboard means vertical space between the top of the load and top of the trailer).

- Pave construction access roads at least 100 ft onto the site from main road.
- Traffic speeds on all unpaved roads shall be reduced to 15 miles per hour (mph) or less.

Mitigation Measure 4.4.2: **Dust Suppression.** Prior to commencement of grading activities, the Director of the City of Newport Beach Planning Department or designee shall ensure that notes are included on construction and grading plans and referenced in the contractor's agreement that requires use of dust suppression measures in the South Coast Air Quality Management District (SCAQMD) California Environmental Quality Act (CEQA) *Air Quality Handbook* during project grading and construction. The construction contractor shall be responsible for the implementation of the following dust suppression measures:

- Revegetate disturbed areas as soon as possible.
- Increase active site watering to three times daily.
- All excavating and grading operations shall be suspended when wind speeds (as instantaneous gusts) exceed 25 miles per hour (mph).
- When visible soil materials are carried to adjacent streets, those streets shall be swept once per day to the extent necessary to remove the visible soil material (recommend water sweepers with reclaimed water).
- Install wheel washers where vehicles enter and exit unpaved roads onto paved roads, or wash trucks and any equipment leaving the site each trip.
- All on-site roads shall be paved as soon as feasible, watered periodically, or chemically stabilized.
- The area disturbed by clearing, grading, earthmoving, or excavation operations shall be minimized at all times.

Mitigation Measure 4.4.3: **Construction Equipment.** Prior to commencement of grading activities, the Director of the City of Newport Beach Public Works Department or designee shall ensure that construction documents require the Construction Contractor to select the construction equipment used on site based on low-emission factors and high-energy efficiency. Prior to commencement of grading activities, the Director of the City of Newport Beach Public Works Department, or designee, shall also verify that construction contracts include a statement that all construction equipment will be tuned and maintained in accordance with the manufacturer's specifications.

Mitigation Measure 4.4.4: **Electric or Alternative Fuel-Powered Equipment.** Prior to issuance of a Notice to Proceed, the Director of the City of Newport Beach Public Works Department or designee shall verify that construction contracts and/or grading plans include a statement that the Construction Contractor shall utilize electric or alternative-fuel powered equipment in lieu of gasoline or diesel powered engines where feasible.

Mitigation Measure 4.4.5: **Equipment Shut Off and Smog Season Hours.** Prior to issuance of a Notice to Proceed, the Director of the City of Newport Beach Public Works Department or designee shall verify that construction contracts and/or grading plans include a statement that work crews will shut off equipment when not in use. During smog season (May through October), the overall length of the construction period will be extended to minimize the occurrence of vehicles and equipment operating at the same time and thereby decreasing the size of the area prepared each day.

Mitigation Measure 4.4.6: **Traffic Obstruction Minimization.** Prior to issuance of a Notice to Proceed, the Director of the City of Newport Beach Public Works Department shall verify that construction contracts and/or grading plans include a statement that construction trucks, to the extent feasible, shall avoid using the streets during peak-hour traffic; if necessary, a flagperson shall be retained to maintain safety adjacent to existing roadways.

Mitigation Measure 4.4.7: **Ridesharing and Transit Incentives.** Prior to issuance of a Notice to Proceed, the Director of the City of Newport Beach Public Works Department shall verify that construction contracts and/or grading plans include a statement that the Construction Contractor shall support and encourage ridesharing and transit incentives for the construction crew.

Mitigation Measure 4.4.8: **South Coast Air Quality Management District (SCAQMD) Rule 1113.** Prior to issuance of a Notice to Proceed, the Director of the City of Newport Beach Public Works Department or designee shall verify that construction contracts and/or grading plans include a statement that the Construction Contractor shall comply with the SCAQMD Rule 1113 on the use of architectural coatings. Emissions associated with architectural coatings would be reduced by complying with these rules and regulations, which include using pre-coated/natural colored building materials, using water-based or low-volatile organic compounds (VOC) coating, and using coating transfer or spray equipment with high transfer efficiency.

4.4.9 Level of Significance after Mitigation

Implementation of the standard conditions and mitigation measures provided above would reduce the construction impacts to the extent feasible. However, the project and cumulative construction air quality adverse impacts would remain significant and unavoidable after mitigation.

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