5.6 AIR QUALITY

This section addresses the air emissions generated by the construction and operation of the proposed project, and the potential impacts to air quality. The analysis also addresses the consistency of the proposed project with the air quality policies set forth within the South Coast Air Quality Management District's (SCAQMD) *2012 Air Quality Management Plan*. The analysis of project-generated air emissions focuses on whether the proposed project would cause an exceedance of an ambient air quality standard or SCAQMD significance threshold. Air quality technical data is included as Appendix 11.4, *Air Quality/Greenhouse Gas Emissions Data*.

5.6.1 EXISTING SETTING

SOUTH COAST AIR BASIN

Geography

The City is located in the South Coast Air Basin (Basin), a 6,600-square mile area bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the nondesert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County.

The extent and severity of the air pollution problem in the Basin is a function of the area's natural physical characteristics (weather and topography), as well as man-made influences (development patterns and lifestyle). Factors such as wind, sunlight, temperature, humidity, rainfall, and topography all affect the accumulation and/or dispersion of air pollutants throughout the Basin.

Climate

The general region lies in the semipermanent high-pressure zone of the eastern Pacific. As a result, the climate is mild, tempered by cool sea breezes. The climate consists of a semiarid environment with mild winters, warm summers, moderate temperatures, and comfortable humidity. Precipitation is limited to a few winter storms. The usually mild climatological pattern is interrupted infrequently by periods of extremely hot weather, winter storms, or Santa Ana winds. The average annual temperature varies little throughout the Basin, averaging 75 degrees Fahrenheit (°F). However, with a less-pronounced oceanic influence, the eastern inland portions of the Basin show greater variability in annual minimum and maximum temperatures. All portions of the Basin have recorded temperatures over 100°F in recent years.

Although the Basin has a semi-arid climate, the air near the surface is moist due to the presence of a shallow marine layer. Except for infrequent periods when dry, continental air is brought into the Basin by offshore winds, the ocean effect is dominant. Periods with heavy fog are frequent, and low stratus clouds, occasionally referred to as "high fog," are a characteristic climate feature. Annual average relative humidity is 70 percent at the coast and 57 percent in the eastern part of the Basin. Precipitation in the Basin is typically 9 to 14 inches annually and is rarely in the form of snow or hail due to typically warm weather. The frequency and amount of rainfall is greater in the coastal areas of the Basin.

The height of the inversion is important in determining pollutant concentration. When the inversion is approximately 2,500 feet above sea level, the sea breezes carry the pollutants inland to escape over the mountain slopes or through the passes. At a height of 1,200 feet, the terrain prevents the pollutants from entering the upper atmosphere, resulting in a settlement in the foothill communities. Below 1,200 feet, the inversion puts a tight lid on pollutants, concentrating them in a shallow layer over the entire coastal basin. Usually, inversions are lower before sunrise than during the day. Mixing heights for inversions are lower in the summer and more persistent, being partly responsible for the high levels of ozone (O_3) observed during summer months in the Basin. Smog in southern California is generally the result of these temperature inversions combining with coastal day winds and local mountains to contain the pollutants for long periods of time, allowing them to form secondary pollutants by reacting with sunlight. The Basin has a limited ability to disperse these pollutants due to typically low wind speeds.

The area in which the project is located offers clear skies and sunshine, yet is still susceptible to air inversions. These inversions trap a layer of stagnant air near the ground, where it is then further loaded with pollutants. These inversions cause haziness, which is caused by moisture, suspended dust, and a variety of chemical aerosols emitted by trucks, automobiles, furnaces, and other sources.

The local climate is typically warm during summer when temperatures tend to be in the 70s and cool during winter when temperatures tend to be in the 60s. The warmest month of the year is August with an average maximum temperature of 72 degrees Fahrenheit, while the coldest month of the year is December with an average minimum temperature of 49 degrees Fahrenheit. Temperature variations between night and day tend to be moderate during summer with a difference that can reach 13 degrees Fahrenheit, and moderate during winter with a difference of approximately 14 degrees Fahrenheit. The annual average precipitation in Newport Beach is 10.71 inches. Rainfall occurs most frequently in February, with an average rainfall of 2.68 inches.[1]

LOCAL AMBIENT AIR QUALITY

The SCAQMD has divided its jurisdiction into 38 source receptor areas (SRA) with a designated ambient air monitoring station in most areas. The project is located in the North Coastal Orange County SRA (SRA 18). The monitoring station representative of this area is the Costa Mesa station, which is located approximately 4 miles south of the project site and also located within SRA 18. The air pollutants measured at the Costa Mesa station site include O_3, CO, nitrogen dioxide (NO_2), and Sulfur dioxide (SO_2). Particulates (PM_{10} and $PM_{2.5}$) are not measured at the Costa Mesa site. The nearest station to the project site measuring particulates is the Mission Viejo station, which is located approximately 14.6 miles west of the project site (within SRA 19). The air quality data monitored at the Costa Mesa and Mission Viejo stations from 2010 to 2012 are presented in Table 5.6-1, *Measured Air Quality Levels*.

[1] The Weather Channel, *Average Weather for Newport Beach, CA*, http://www.weather.com/weather/wxclimatology/monthly/graph/USCA0764, Accessed December 11, 2013.

Table 5.6-1
Measured Air Quality Levels

Pollutant	Primary Standard		Year	Maximum Concentration[1]	Number of Days State/Federal Std. Exceeded
	California	Federal			
Carbon Monoxide (CO) [2] (8-Hour)	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2010 2011 2012	2.09 ppm 2.22 1.71	0/0 0/0 0/0
Carbon Monoxide (CO) [2] (1-Hour)	20 ppm for 1 hour	35 ppm for 1 hour	2010 2011 2012	2.44 ppm 2.91 2.09	0/0 0/0 0/0
Ozone (O_3) [2] (1-Hour)	0.09 ppm for 1 hour	N/A	2010 2011 2012	0.097 ppm 0.093 0.090	1/0 0/0 0/0
Ozone (O_3) [2] (8-Hour)	0.07ppm for 8 hours	0.075 ppm for 8 hours	2010 2011 2012	0.076 ppm 0.077 0.076	2/1 2/1 1/1
Nitrogen Dioxide (NO_x) [2]	0.18 ppm for 1 hour	0.100 ppm	2010 2011 2012	0.070 ppm 0.061 0.074	0/0 0/0 0/0
Sulfur Dioxide (SO_X) [2]	0.25 ppm for 1 hour	0.14 ppm for 24 hours or 0.03 ppm annual arithmetic mean	2010 2011 2012	0.002 ppm NM NM	N/A N/A N/A
Particulate Matter (PM_{10}) [3, 4, 5]	50 μg/m^3 for 24 hours	150 μg/m^3 for 24 hours	2010 2011 2012	34.0 μg/m^3 48.0 37.0	0/NM 0/0 0/0
Fine Particulate Matter ($PM_{2.5}$) [3,5]	No Separate State Standard	35 μg/m^3 for 24 hours	2010 2011 2012	19.9 μg/m^3 33.4 27.6	10/0 9/0 8/0

ppm = parts per million
μg/m^3 = micrograms per cubic meter
NM = Not Measured
PM_{10} = particulate matter 10 microns in diameter or less
$PM_{2.5}$ = particulate matter 2.5 microns in diameter or less
NA = Not Applicable

Notes:
1. Maximum concentration is measured over the same period as the California Standard.
2. Measurements taken at the Costa Mesa Monitoring Station located at 2850 Mesa Verde Drive East, Costa Mesa, California 92626.
3. Measurements taken at the Mission Viejo Monitoring Station located at 26081 Via Pera, Mission Viejo, California 92691.
4. PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
5. PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

Source: California Air Resources Board, *ADAM Air Quality Data Statistics*, http://www.arb.ca.gov/adam/welcome.html, accessed on December 11, 2013.

Carbon Monoxide (CO). CO is an odorless, colorless toxic gas that is emitted by mobile and stationary sources as a result of incomplete combustion of hydrocarbons or other carbon-based fuels. In cities, automobile exhaust can cause as much as 95 percent of all CO emissions.

CO replaces oxygen in the body's red blood cells. Individuals with a deficient blood supply to the heart, patients with diseases involving heart and blood vessels, fetuses (unborn babies), and patients with chronic hypoxemia (oxygen deficiency) as seen in high altitudes are most susceptible to the adverse effects of CO exposure. People with heart disease are also more susceptible to developing chest pains when exposed to low levels of carbon monoxide. Exposure to high levels of carbon monoxide can slow reflexes and cause drowsiness, and result in death in confined spaces at very high concentrations.

Ozone (O_3). Ozone occurs in two layers of the atmosphere. The layer surrounding the earth's surface is the troposphere. The troposphere extends approximately 10 miles above ground level, where it meets the second layer, the stratosphere. The stratospheric (the "good" ozone layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

"Bad" ozone is a photochemical pollutant, and needs volatile organic compounds (VOCs), nitrogen oxides (NO_X), and sunlight to form; therefore, VOCs and NO_X are ozone precursors. To reduce ozone concentrations, it is necessary to control the emissions of these ozone precursors. Significant ozone formation generally requires an adequate amount of precursors in the atmosphere and a period of several hours in a stable atmosphere with strong sunlight. High ozone concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While ozone in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level ozone (in the troposphere) can adversely affect the human respiratory system and other tissues. Ozone is a strong irritant that can constrict the airways, forcing the respiratory system to work hard to deliver oxygen. Individuals exercising outdoors, children, and people with pre-existing lung disease such as asthma and chronic pulmonary lung disease are considered to be the most susceptible to the health effects of ozone. Short-term exposure (lasting for a few hours) to ozone at levels typically observed in Southern California can result in aggravated respiratory diseases such as emphysema, bronchitis and asthma, shortness of breath, increased susceptibility to infections, inflammation of the lung tissue, increased fatigue, as well as chest pain, dry throat, headache, and nausea.

Nitrogen Dioxide (NO_2). Nitrogen oxides (NO_X) are a family of highly reactive gases that are a primary precursor to the formation of ground-level ozone, and react in the atmosphere to form acid rain. NO_2 (often used interchangeably with NO_X) is a reddish-brown gas that can cause breathing difficulties at high levels. Peak readings of NO_2 occur in areas that have a high concentration of combustion sources (e.g., motor vehicle engines, power plants, refineries, and other industrial operations).

NO_2 can irritate and damage the lungs, and lower resistance to respiratory infections such as influenza. The health effects of short-term exposure are still unclear. However, continued or frequent exposure to NO_2 concentrations that are typically much higher than those normally found in the ambient air may increase acute respiratory illnesses in children and increase the incidence of chronic bronchitis and lung irritation. Chronic exposure to NO_2 may aggravate eyes and mucus membranes and cause pulmonary dysfunction.

Coarse Particulate Matter (PM_{10}). PM_{10} refers to suspended particulate matter, which is smaller than 10 microns or ten one-millionths of a meter. PM_{10} arises from sources such as road dust, diesel soot, combustion products, construction operations, and dust storms. PM_{10} scatters light and significantly reduces visibility. In addition, these particulates penetrate into lungs and can potentially damage the respiratory tract. On June 19, 2003, the California Air Resources Board (CARB) adopted amendments to the statewide 24-hour particulate matter standards based upon requirements set forth in the Children's Environmental Health Protection Act (Senate Bill 25).

Fine Particulate Matter ($PM_{2.5}$). Due to recent increased concerns over health impacts related to fine particulate matter (particulate matter 2.5 microns in diameter or less), both State and Federal $PM_{2.5}$ standards have been created. Particulate matter impacts primarily affect infants, children, the elderly, and those with pre-existing cardiopulmonary disease. In 1997, the U.S. Environmental Protection Agency (EPA) announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court and the implementation of the standard was blocked. However, upon appeal by the EPA, the United States Supreme Court reversed this decision and upheld the EPA's new standards.

On January 5, 2005, the EPA published a Final Rule in the Federal Register that designates the Basin as a nonattainment area for Federal $PM_{2.5}$ standards. On June 20, 2002, CARB adopted amendments for statewide annual ambient particulate matter air quality standards. These standards were revised/established due to increasing concerns by CARB that previous standards were inadequate, as almost everyone in California is exposed to levels at or above the current State standards during some parts of the year, and the statewide potential for significant health impacts associated with particulate matter exposure was determined to be large and wide-ranging.

Sulfur Dioxide(SO_2). SO_2 is a colorless, irritating gas with a rotten egg smell; it is formed primarily by the combustion of sulfur-containing fossil fuels. Sulfur dioxide is often used interchangeably with SO_X and lead (Pb). Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics.

SENSITIVE RECEPTORS

Sensitive populations are more susceptible to the effects of air pollution than the general population. Sensitive populations (sensitive receptors) that are in proximity to localized sources of toxics and CO are of particular concern. Some land uses are considered more sensitive to changes in air quality than others, depending on the population groups and the activities involved. The following types of people are most likely to be adversely affected by air pollution, as identified by CARB: children under 14, elderly over 65, athletes, and people with cardiovascular and chronic respiratory diseases. Locations that may contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, elementary schools, and parks. Sensitive uses within the immediate project area include residential uses to the west and northwest (across Newport Boulevard), southwest (along Marcus Avenue), and southeast (across Lido Park Drive). Additional existing sensitive receptors located in the project vicinity include hotels, motels, schools, hospitals, libraries, parks, and places of worship; refer to Table 5.6-2, *Surrounding Off-Site Sensitive Receptors*.

Table 5.6-2
Surrounding Off-Site Sensitive Receptors

Type	Name	Distance from Project Site (feet)	Orientation from Project Site
Residential	Residential Uses	200	West
		275	Northwest
		750	Southwest
		800	Southeast
		75	South
		450	South/Southeast
Hotels/Motels	Little Inn by the Bay	1,200	South
	Bay Shores Peninsula Hotel	3,225	Southeast
	Newport Beach Vacation Home	3,550	Southeast
	Vacation Income Properties	4,175	Northwest
	Masonic Lodge	5,130	Northeast
Schools	Horace Ensign Intermediate School	3,790	East
	Children's Center By the Sea	4,340	Southeast
	Newport Heights Elementary	4,560	Northeast
	Newport Elementary	4,590	Southeast
	Newport Harbor High School	5,165	Northeast
Places of Worship	Christian Science First Church	272	East
	St James the Great Episcopal Church	320	East
	St Andrew's Presbyterian Church	4,990	Northeast
Hospitals	Hoag Hospital	2,600	North
Libraries	Balboa Branch Library	8,100	Southeast
Parks	Newport Island Park	1,320	Northwest
	Thirty Eighth Street Park	1,335	West
	Channel Park	2,545	Northwest
	Genoa Park	2,815	East
	Cliff Drive Park	2,865	Northeast
	Horace Ensign Park	4,200	East

Note:
1. Distances are measured from the exterior project boundary only and not from individual construction projects/areas within the interior of the project site.

Source: Google Earth, 2014.

5.6.2 REGULATORY SETTING

U.S. ENVIRONMENTAL PROTECTION AGENCY

The EPA is responsible for implementing the Federal Clean Air Act (FCAA), which was first enacted in 1955 and amended numerous times after. The FCAA established Federal air quality standards known as the National Ambient Air Quality Standards (NAAQS). These standards identify levels of air quality for "criteria" pollutants that are considered the maximum levels of ambient (background) air pollutants considered safe, with an adequate margin of safety, to protect the public health and welfare; refer to Table 5.6-3, *National and California Ambient Air Quality Standards*.

Table 5.6-3
National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 µg/m^3)	**Nonattainment**	N/A[5]	N/A[5]
	8 Hour	0.070 ppm (137 µg/m^3)	N/A	0.075 ppm (147 µg/m^3)	**Nonattainment**
Particulate Matter (PM_{10})	24 Hour	50 µg/m^3	**Nonattainment**	150 µg/m^3	Attainment/Maintenance
	Annual Arithmetic Mean	20 µg/m^3	**Nonattainment**	N/A[7]	N/A
Fine Particulate Matter ($PM_{2.5}$)[6]	24 Hour	No Separate State Standard		35 µg/m^3	**Nonattainment**
	Annual Arithmetic Mean	12 µg/m^3	**Nonattainment**	12.0 µg/m^3	**Nonattainment**
Carbon Monoxide (CO)	8 Hour	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment/Maintenance
	1 Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment/Maintenance
Nitrogen Dioxide (NO_2)[7]	Annual Arithmetic Mean	0.030 ppm (57 µg/m^3)	**Nonattainment**	53 ppb (100 µg/m^3)	Attainment/Maintenance
	1 Hour	0.18 ppm (339 µg/m^3)	**Nonattainment**	100 ppb (188 µg/m^3)	Attainment/Maintenance
Lead (Pb)[8, 9]	30 day average	1.5 µg/m^3	Attainment	N/A	N/A
	Calendar Quarter	N/A	N/A	1.5 µg/m^3	Attainment
	Rolling 3-month Average	N/A	N/A	0.15 µg/m^3	Attainment
Sulfur Dioxide (SO_2)[10]	Annual Arithmetic Mean	N/A	N/A	0.030 ppm (for certain areas)	Attainment
	24 Hour	0.04 ppm (105 µg/m^3)	Attainment	0.14 ppm (for certain areas)	Attainment
	3 Hour	N/A	N/A	N/A	Attainment
	1 Hour	0.25 ppm (655 µg/m^3)	Attainment	75 ppb (196 µg/m^3)	N/A
Visibility-Reducing Particles[11]	8 Hours (10 a.m. to 6 p.m., PST)	Extinction coefficient = 0.23 km@<70% RH	Unclassified	**No Federal Standards**	
Sulfates	24 Hour	25 µg/m3	Attainment		
Hydrogen Sulfide	1 Hour	0.03 ppm (42 µg/m^3)	Unclassified		
Vinyl Chloride[8]	24 Hour	0.01 ppm (23 ug/m^3)	N/A		

µg/m^3 = micrograms per cubic meter; ppm = parts per million; ppb = parts per billion; km = kilometer(s); RH = relative humidity; PST = Pacific Standard Time; N/A = Not Applicable.

1. California standards for ozone, carbon monoxide (except Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, suspended particulate matter-PM_{10} 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. In 1990, CARB identified vinyl chloride as a toxic air contaminant, but determined that there was not sufficient available scientific evidence to support the identification of a threshold exposure level. This action allows the implementation of health-protective control measures at levels below the 0.010 ppm ambient concentration specified in the 1978 standard.
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 EPA also may designate an area as *attainment/unclassifiable*, if: (1) it has monitored air quality data that show that the area has not violated the ozone standard over a three-year period; or (2) there is not enough information to determine the air quality in the area. For PM_{10}, the 24-hour standard is attained when 99 percent of the daily concentrations, averaged over the three years, are equal to or less than the standard. 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.
3. Concentration is 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 mm of mercury. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 mm of mercury (1,013.2 millibar); ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4. National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5. The Federal 1-hour ozone standard was revoked on June 15, 2005 in all areas except the 14 8-hour ozone nonattainment Early Action Compact (EAC) areas.
6. On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.
7. To attain this standard, the 3-year average of the 98th percentile of the daily maximum 1-hour average at each monitor within an area must not exceed 0.100 ppm (effective January 22, 2010).
8. CARB 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
10. On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until one year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. Note that the 1-hour national standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the 1-hour national standard to the California standard the units can be converted to ppm. In this case, the national standard of 75 ppb is identical to 0.075 ppm.
11. In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

Source: California Air Resources Board and U.S. Environmental Protection Agency, June 4, 2013.

CALIFORNIA AIR RESOURCES BOARD

CARB administers the air quality policy in California. The California Ambient Air Quality Standards (CAAQS) were established in 1969 pursuant to the Mulford-Carrell Act. These standards, included with the NAAQS in Table 5.6-2, are generally more stringent and apply to more pollutants than the NAAQS. In addition to the criteria pollutants, CAAQS have been established for visibility reducing particulates, hydrogen sulfide, and sulfates. The California Clean Air Act (CCAA), which was approved in 1988, requires that each local air district prepare and maintain an Air Quality Management Plan (AQMP) to achieve compliance with CAAQS.

Like the EPA, CARB also designates areas within California as either attainment or nonattainment for each criteria pollutant based on whether the CAAQS have been achieved. Under the CCAA, areas are designated as nonattainment for a pollutant if air quality data show that a state standard for the pollutant was violated at least once during the previous three calendar years. Exceedances that are affected by highly irregular or infrequent events are not considered violations of a state standard, and are not used as a basis for designating areas as nonattainment.

SOUTH COAST AIR QUALITY MANAGEMENT DISTRICT

The SCAQMD is one of 35 air quality management districts that have prepared AQMP's to accomplish a five-percent annual reduction in emissions. On December 7, 2012, the SCAQMD Governing Board approved the *2012 Air Quality Management Plan* (2012 AQMP), which outlines its strategies for meeting the NAAQS for $PM_{2.5}$ and ozone. The 2012 AQMP relies on a multi-level partnership of governmental agencies at the federal, state, regional, and local level. The 2012 AQMP proposes policies and measures to achieve federal and state standards for improved air quality in the South Coast Air Basin and those portions of the Salton Sea Air Basin that are under SCAQMD jurisdiction.

The 2012 AQMP includes new information on key elements such as:

- Current air quality;
- Improved emission inventories, especially significant increases in mobile source emissions;
- An overall control strategy comprised of: Stationary and Mobile Source Control Measures, SCAQMD, State and Federal Stationary and Mobile Source Control Measures, and the Southern California Association of Governments Regional Transportation Strategy and Control Measures;
- New attainment demonstration for $PM_{2.5}$ and O_3;
- Milestones to the Federal Reasonable Further Progress Plan; and
- Preliminary motor vehicle emission budgets for transportation conformity purposes.

In addition to the 2012 AQMP and its rules and regulations, the SCAQMD published the *CEQA Air Quality Handbook*. The SCAQMD *CEQA Air Quality Handbook* provides guidance to assist local government agencies and consultants in developing the environmental documents required by CEQA. With the help of the *CEQA Air Quality Handbook*, local land use planners and other consultants are able to analyze and document how proposed and existing projects affect air quality and should be able to fulfill the requirements of the CEQA review process. The SCAQMD is in the process of developing an *Air Quality Analysis Guidance Handbook* to replace the current *CEQA Air Quality Handbook* approved by the SCAQMD Governing Board in 1993.

CITY OF NEWPORT BEACH

Newport Beach Municipal Code

Newport Beach Municipal Code Chapter 3.30, Air Quality Improvement Trust Fund, addresses air quality by establishing a special fund to receive revenue distributed by the SCAQMD. The SCAQMD imposes additional vehicle registration fees to bring the City into compliance with the requirements set forth in Section 44243 of the Health and Safety Code, in order to receive fee revenues for the purpose of implementing mobile source reduction programs.

5.6.3 IMPACT THRESHOLDS AND SIGNIFICANCE CRITERIA

REGIONAL AIR QUALITY

In its *CEQA Air Quality Handbook* (November 1993), the SCAQMD has established significance thresholds to assess the impact of project related air pollutant emissions. Table 5.6-4, *SCAQMD Regional Pollutant Emission Thresholds of Significance*, presents these significance thresholds. There are separate thresholds for short-term construction and long-term operational emissions. A project with daily emission rates below these thresholds is considered to have a less than significant effect on regional air quality. The SCAQMD is in the process of updating the thresholds.

Table 5.6-4
SCAQMD Regional Pollutant Emission Thresholds of Significance

Phase	Pollutant (lbs/day)					
	VOC	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Construction	75	100	550	150	150	55
Operation	55	55	550	150	150	55

CO = carbon monoxide; VOC = volatile organic compounds; NO_X = nitrogen oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns
Source: South Coast Air Quality Management District, *CEQA Air Quality Handbook,* November 1993.

Construction

Mass daily combustion emissions, fugitive PM_{10} and $PM_{2.5}$, and off-gassing emissions were calculated using the California Emissions Estimator Model (CalEEMod), as recommended by the SCAQMD. CalEEMod separates the construction process into multiple phases, including demolition and site clearing, grading, trenching, paving, building construction, and architectural coating. Construction emissions account for on-site construction equipment emissions, haul truck trips, and worker commute trips. Construction activities were based upon construction scheduling and other preliminary construction details provided by the City. Where appropriate, CalEEMod defaults were utilized. CalEEMod assumptions are provided in Appendix 11.4, *Air Quality/Greenhouse Gas Emissions Data*.

Operations

The CalEEMod software was also used to quantify the daily emissions from mobile and area sources that would occur during long-term operation of the proposed project. Mobile source emissions calculations in CalEEMod were supplemented with traffic trips within the *Traffic Impact Analysis*. Area source emissions were quantified using CalEEMod default emissions and exclude emissions from wood burning fireplaces and stoves.

LOCAL AIR QUALITY

Localized Significance Thresholds

Localized Significance Thresholds (LSTs) were developed in response to the SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (revised July 2008) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific level proposed projects. The SCAQMD provides the LST lookup tables for one, two, and five acre projects emitting CO, NO_X, PM_{10}, and $PM_{2.5}$. The LST methodology and associated mass rates are not designed to evaluate localized impacts from mobile sources traveling over the roadways. The SCAQMD recommends that any project over five acres should perform air quality dispersion modeling to assess impacts to nearby sensitive receptors.

Localized CO

In addition, the project would result in a local air quality impact if the project results in increased traffic volumes and/or decreases in Level of Service (LOS) that would result in an exceedance of the CO ambient air quality standards of 20 parts per million (ppm) for 1-hour CO concentration levels, and 9 ppm for 8-hour CO concentration levels. If the CO concentrations at potentially impacted intersections with the project are lower than the standards, then there is no significant impact. If future CO concentrations with the project are above the standard, then the project would have a significant local air quality impact.

Cumulative Emissions

The SCAQMD's 2012 AQMP was prepared to accommodate growth, meet state and federal air quality standards, and minimize the fiscal impact that pollution control measures have on the local economy. According to the SCAQMD *CEQA Air Quality Handbook*, project-related emissions that fall below the established construction and operational thresholds should be considered less than significant unless there is pertinent information to the contrary.

If a project exceeds these emission thresholds, the SCAQMD *CEQA Air Quality Handbook* states that the significance of a project's contribution to cumulative impacts should be determined based on whether the rate of growth in average daily trips exceeds the rate of growth in population.

CEQA SIGNIFICANCE CRITERIA

The environmental analysis in this section is patterned after the Initial Study Checklist recommended by Appendix G of the *CEQA Guidelines*, as amended, and used by the City of Newport Beach in its environmental review process. The Initial Study Checklist includes questions relating to air quality. The issues presented in the Initial Study Checklist have been utilized as thresholds of significance in this section. Accordingly, a project may create a significant adverse environmental impact if it would:

- Violate any air quality standard or contribute substantially to an existing or projected air quality violation (refer to Impact Statement AQ-1 and AQ-2).

- Expose sensitive receptors to substantial pollutant concentrations (refer to Impact Statement AQ-1 and AQ-3).

- Conflict with or obstruct implementation of the applicable air quality plan (refer to Impact Statement AQ-4).

- Create objectionable odors affecting a substantial number of people (refer to Impact Statement AQ-5).

Based on these significance thresholds and criteria, the project's effects have been categorized as either "no impact," a "less than significant impact," or a "potentially significant impact." Mitigation measures are recommended for potentially significant impacts. If a potentially significant impact cannot be reduced to a less than significant level through the application of mitigation, it is categorized as a significant unavoidable impact.

The standards used to evaluate the significance of impacts are often qualitative rather than quantitative because appropriate quantitative standards are either not available for many types of impacts or are not applicable for some types of projects.

5.6.4 IMPACTS AND MITIGATION MEASURES

SHORT-TERM (CONSTRUCTION) AIR EMISSIONS

AQ-1 SHORT-TERM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN AIR POLLUTANT EMISSION IMPACTS OR EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS.

Impact Analysis: Short-term air quality impacts are predicted to occur during grading and construction operations associated with implementation of the proposed project. Temporary air emissions would result from the following activities:

- Particulate (fugitive dust) emissions from grading and building construction; and
- Exhaust emissions from the construction equipment and the motor vehicles of the construction crew.

Potential odors could arise from the diesel construction equipment used on-site, as well as from architectural coatings and asphalt off-gassing. Odors generated from the referenced sources are common in the man-made environment and are not known to be substantially offensive to adjacent receptors. Additionally, odors generated during construction activities would be temporary and are not considered to be a significant impact.

The project proposes removal of the former Newport Beach City Hall Complex and development of a 130-room Lido House Hotel. The Newport Beach Fire Department Fire Station No. 2 would remain in operation at the project site. For the purposes of analysis, the proposed project is anticipated to begin construction in 2016 and occur over a 14-month period of time. Project construction would require bore/drill rigs, concrete/industrial saws, crawler tractors, off-highway tractors, rough terrain forklifts, rubber tired loaders, and tractors/loaders/backhoes during demolition; graders, excavators, tractors/loaders/backhoes and rubber tired loaders during grading; pavers, rollers, and paving equipment during paving; cranes, tractors/loaders/backhoes, and forklifts during building construction; and air compressors during architectural coating (CalEEMod default equipment types and quantities). Emissions for each construction phase have been quantified based upon the phase durations and equipment types. The analysis of daily construction emissions has been prepared utilizing the CalEEMod computer model. Table 5.6-5, *Maximum Daily Pollutant Emissions During Construction*, presents the anticipated daily short-term construction emissions.

Table 5.6-5
Maximum Daily Pollutant Emissions During Construction

Emissions Source	Emissions (pounds per day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Year 1						
Construction Emissions	8.83	75.16	60.85	0.11	10.72	6.68
Mitigated Emissions[2]	8.83	75.16	60.85	0.11	10.41	6.51
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***
Year 2						
Construction Emissions	56.80	48.28	42.12	0.07	5.34	3.47
Mitigated Emissions[2]	56.80	48.28	42.12	0.07	5.34	3.47
SCAQMD Threshold	*75*	*100*	*550*	*150*	*150*	*55*
Is Threshold Exceeded After Mitigation?	***No***	***No***	***No***	***No***	***No***	***No***

Notes:
1. Emissions calculated using the CalEEMod model.
2. The reduction/credits for construction emission mitigations are based on mitigation included in the CalEEMod model and as typically required by the SCAQMD through Rule 403. The mitigation includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces twice daily; cover stock piles with tarps; water all haul roads three times daily; limit speeds on unpaved roads to 15 miles per hour; and use CARB certified engines.

Refer to Appendix 11.4, *Air Quality/Greenhouse Gas Emissions Data*, for assumptions used in this analysis, including quantified emissions reduction by mitigation measures.

Air pollutants would be emitted by construction equipment and fugitive dust would be generated during demolition of the existing structures and improvements, as well as during grading of the site. Emissions during the primary phases of construction were calculated using the CalEEMod program. The equipment modeled during each phase was based on the defaults in CalEEMod modified as needed to represent the project specifics. All fugitive dust calculations accounted for watering and other dust control methods required to be implemented per SCAQMD Rule 403.

Fugitive Dust Emissions

Fugitive dust (PM_{10} and $PM_{2.5}$) from grading and construction is expected to be short-term and would cease following Project completion. Most of this material is composed of inert silicates, which are less harmful to health than the complex organic particulates released from combustion sources. These particles are either directly emitted or are formed in the atmosphere from the combustion of gases such as NO_X and SO_X combining with ammonia. The greatest amount of fugitive dust generated is expected to occur during site grading and excavation. Dust generated by such activities usually becomes more of a local nuisance than a serious health problem. Of particular concern is the amount of PM_{10} generated as a part of fugitive dust emissions.

The CalEEMod computer model calculates PM_{10} and $PM_{2.5}$ fugitive dust as part of the site earthwork activity emissions; refer to Table 5.6-5. Maximum particulate matter emissions would occur during the initial stages of construction, when grading activities would occur. Mitigation Measure AQ-1 requires that construction activities comply with SCAQMD Rule 403, such that excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures. In addition, SCAQMD Rule 402 is required for implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site and after implementation would reduce short-term fugitive dust impacts on nearby sensitive receptors. These are standard dust control measures that the SCAQMD requires for all projects. With adherence to Mitigation Measures AQ-1 and AQ-2, the maximum mitigated particulate matter concentration would be 10.41 pounds per day (lbs/day) for PM_{10} and 6.51 lbs/day for $PM_{2.5}$ in construction Year 1. Therefore, emissions in each year are below SCAQMD thresholds of 150 lbs/day for PM_{10} and 55 lbs/day for $PM_{2.5}$. Although the unmitigated particulate matter levels are below the SCAQMD thresholds in the absence of specific dust reduction measures, Mitigation Measures AQ-1 and AQ-2 have been recommended to ensure impacts remain at less than significant levels as the Basin is nonattainment for PM_{10} and $PM_{2.5}$.

ROG Emissions

In addition to gaseous and particulate emissions, the application of asphalt and surface coatings creates ROG emissions, which are O_3 precursors. As shown in Table 5.6-5, ROG emissions would be below SCAQMD thresholds and impacts remain at less than significant levels.

Construction Exhaust Emissions

Exhaust emissions would be generated by the operation of vehicles and equipment on the construction site, such as tractors, dozers, backhoes, cranes, and trucks. The majority of construction equipment and vehicles would be diesel powered, which tends to be more efficient than gasoline-powered equipment. Diesel-powered equipment produces lower carbon monoxide and hydrocarbon emissions than gasoline equipment, but produces greater amounts of NO_X, SO_X, and particulates per hour of activity. The transportation of machinery, equipment and materials to and from the project site, as well as construction worker trips, would also generate vehicle emissions during construction. Standard SCAQMD regulations, such as maintaining all construction equipment in proper tune, shutting down equipment when not in use for extended periods of time, and implementing SCAQMD Rule 403 would be adhered to. As noted in Table 5.6-5, construction equipment exhaust would not exceed SCAQMD thresholds. Therefore, impacts are less than significant in this regard.

Asbestos

Pursuant to guidance issued by the Governor's Office of Planning and Research, State Clearinghouse, lead agencies are encouraged to analyze potential impacts related to naturally occurring asbestos (NOA). Asbestos is a term used for several types of naturally occurring fibrous minerals that are a human health hazard when airborne. The most common type of asbestos is chrysotile, but other types such as tremolite and actinolite are also found in California. Asbestos is classified as a known human carcinogen by State, Federal, and international agencies and was identified as a toxic air contaminant by the CARB in 1986.

Asbestos can be released from serpentinite and ultramafic rocks when the rock is broken or crushed. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. These rocks have been commonly used for unpaved gravel roads, landscaping, fill projects, and other improvement projects in some localities. Asbestos may be released to the atmosphere due to vehicular traffic on unpaved roads, during grading for development projects, and at quarry operations. All of these activities may have the effect of releasing potentially harmful asbestos into the air. Natural weathering and erosion processes can act on asbestos bearing rock and make it easier for asbestos fibers to become airborne if such rock is disturbed.

Serpentinite and/or ultramafic rock are known to be present in 44 of California's 58 counties. These rocks are particularly abundant in the counties of the Sierra Nevada foothills, the Klamath Mountains, and Coast Ranges. According to the Department of Conservation Division of Mines and Geology, *A General Location Guide for Ultramafic Rocks in California – Areas More Likely to Contain Naturally Occurring Asbestos Report* (dated August 2000), the proposed project is not located in an area where NOA is likely to be present. Therefore impacts would be considered less than significant.

It is also possible that asbestos-containing materials may exist within older existing buildings that may be modified or demolished. Therefore, the possibility exists that asbestos fibers may be released into the air should no asbestos assessment or removal (if needed) take place prior to demolition. Standard practice pursuant to SCAQMD Rule 403 is to conduct an asbestos assessment for candidate buildings to determine the presence of asbestos. If identified, an asbestos abatement contractor would be retained to develop an abatement plan and remove the asbestos containing materials, in accordance with local, State, and Federal requirements. After removal, demolition may proceed without significant concern to the release of asbestos fibers into the air. Also refer to Section 5.10, *Hazards and Hazardous Materials*, for an additional discussion of asbestos and asbestos containing materials.

Total Daily Construction Emissions

In accordance with the SCAQMD Guidelines, CalEEMod was utilized to model construction emissions for ROG, NO_X, CO, SO_X, PM_{10}, and $PM_{2.5}$. Construction would occur over a two years, with the greatest emissions being generated during the first year of construction. Additionally, the greatest amount of ROG emissions would occur during the second year of construction due to the application of architectural coatings.

CalEEMod model allows the user to input mitigation measures such as watering the construction area to limit fugitive dust and applying soil stabilizers to the project area. Mitigation measures inputted within the CalEEMod model allow for certain reduction credits and result in a decrease of pollutant emissions. Reduction credits are based upon studies developed by CARB, SCAQMD, and other air quality management districts throughout California, and were programmed within CalEEMod. As indicated in Table 5.6-5, CalEEMod calculates the reduction associated with recommended mitigation measures.

Implementation of Mitigation Measures AQ-1 and AQ-2 would lessen construction-related impacts by requiring measures to reduce air pollutant emissions from construction activities. These measures call for the maintenance of construction equipment, the use of non-polluting and non-toxic building equipment, and minimizing fugitive dust. With implementation of Mitigation Measures AQ-1 and AQ-2, construction related air emissions would be less than significant.

Mitigation Measures:

AQ-1 Prior to issuance of any Grading Permit, the Director of Public Works and the Building Official shall confirm that the Grading Plan, Building Plans, and specifications stipulate that, in compliance with SCAQMD Rule 403, excessive fugitive dust emissions shall be controlled by regular watering or other dust prevention measures, as specified in the SCAQMD's Rules and Regulations. In addition, SCAQMD Rule 402 requires implementation of dust suppression techniques to prevent fugitive dust from creating a nuisance off-site. Implementation of the following measures would reduce short-term fugitive dust impacts on nearby sensitive receptors:

- All active portions of the construction site shall be watered every three hours during daily construction activities and when dust is observed migrating from the project site to prevent excessive amounts of dust;
- Pave or apply water every three hours during daily construction activities or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas. More frequent watering shall occur if dust is observed migrating from the site during site disturbance;
- Any on-site stockpiles of debris, dirt, or other dusty material shall be enclosed, covered, or watered twice daily, or non-toxic soil binders shall be applied;
- All grading and excavation operations shall be suspended when wind speeds exceed 25 miles per hour;
- Disturbed areas shall be replaced with ground cover or paved immediately after construction is completed in the affected area;
- Track-out devices such as gravel bed track-out aprons (3 inches deep, 25 feet long, 12 feet wide per lane and edged by rock berm or row of stakes) shall be installed to

reduce mud/dirt trackout from unpaved truck exit routes. Alternatively a wheel washer shall be used at truck exit routes;

- On-site vehicle speed shall be limited to 15 miles per hour;
- All material transported off-site shall be either sufficiently watered or securely covered to prevent excessive amounts of dust prior to departing the job site; and
- Trucks associated with soil-hauling activities shall avoid residential streets and utilize City-designated truck routes to the extent feasible.

AQ-2 All trucks that are to haul excavated or graded material on-site shall comply with State Vehicle Code Section 23114 (Spilling Loads on Highways), with special attention to Sections 23114(b)(F) and (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads. Prior to the issuance of grading permits, the Applicant shall coordinate with the appropriate City of Newport Beach Engineer on hauling activities compliance.

Level of Significance: Less Than Significant With Mitigation Incorporated.

LONG-TERM (OPERATIONAL) AIR EMISSIONS

AQ-2 IMPLEMENTATION OF THE PROPOSED PROJECT COULD FACILITATE THE CONSTRUCTION OF LAND USES THAT COULD GENERATE DUST AND EQUIPMENT EMISSIONS.

Impact Analysis: Operational emissions generated by both stationary and mobile sources would result from normal daily activities on the project site after occupation (i.e., increased concentrations of O_3, PM_{10}, and CO). Stationary area source emissions would be generated by the consumption of natural gas for space and water heating devices, the operation of landscape maintenance equipment, and the use of consumer products. Stationary energy emissions would result from energy consumption associated with the proposed project. Mobile emissions would be generated by the motor vehicles traveling to and from the project site. Emissions associated with each of these sources were calculated and are discussed below.

<u>Mobile Source Emissions</u>

Mobile sources are emissions from motor vehicles, including tailpipe and evaporative emissions. Depending upon the pollutant being discussed, the potential air quality impact may be of either regional or local concern. For example, ROG, NO_X, SO_X, PM_{10}, and $PM_{2.5}$ are all pollutants of regional concern (NO_X and ROG react with sunlight to form O_3 [photochemical smog], and wind currents readily transport SO_X, PM_{10}, and $PM_{2.5}$). However, CO tends to be a localized pollutant, dispersing rapidly at the source.

Project-generated vehicle emissions have been estimated using CalEEMod. This model predicts ROG, NO_X, PM_{10}, and $PM_{2.5}$ emissions from motor vehicle traffic associated with new or modified land uses; refer to <u>Appendix 11.4</u>, <u>*Air Quality and Greenhouse Gas Emissions Data*</u>. According to the *Traffic Impact Analysis*, the proposed project would generate 1,062 daily trips at buildout. <u>Table 5.6-6</u>, <u>*Long-Term Operational Air Emissions*</u>, presents the anticipated mobile source emissions.

Table 5.6-6
Long-Term Operational Air Emissions

Emissions Source	Pollutant (pounds/day)[1, 2]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
Area	4.94	0.00	0.03	0.00	0.00	0.00
Energy	0.20	1.81	1.52	0.01	0.14	0.14
Mobile	3.49	8.50	34.09	0.08	5.50	1.55
Total Proposed Emissions	***8.63***	***10.32***	***35.64***	***0.09***	***5.64***	***1.68***
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Is Threshold Exceeded? (Significant Impact?)	*No*	*No*	*No*	*No*	*No*	*No*

Notes:
1. Based on CalEEMod results, worst-case seasonal emissions for area and mobile emissions have been modeled.
2. Refer to Appendix 11.4, *Air Quality and Greenhouse Gas Emissions Data*, for assumptions used in this analysis.

Stationary Source Emissions

Stationary source emissions would be generated due to an increased demand for electrical energy and natural gas with the development of the proposed project refer to Table 5.6-6. This assumption is based on the supposition that those power plants supplying electricity to the site are utilizing fossil fuels. Electric power generating plants are distributed throughout the Basin and western United States, and their emissions contribute to the total regional pollutant burden. The primary use of natural gas by the proposed land uses would be for combustion to produce space heating, water heating, other miscellaneous heating, or air conditioning, consumer products, and landscaping.

Impact Conclusion

The land use attributes that are inherent in the project design and location were incorporated into CalEEMod. It should be noted that although the CalEEMod results depict these emissions as "mitigated" emissions, they are part of the project design. The proposed project would require a Zoning Code amendment including a text and map change to replace the existing Public Facilities (PF) designation for the site with a new mixed-use land use category (MU-H5) to establish new density and intensity limits. The MU-H5 designation provides for the horizontal or vertical intermixing of commercial, visitor accommodations, residential, and/or civic uses. Civic uses may include, but are not limited to, a community center, public plazas, a fire station, and/or public parking. As indicated in Table 5.6-6, the unmitigated operational emissions from the proposed project would remain below SCAQMD thresholds. Therefore, impacts in this regard would be less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

LOCALIZED EMISSIONS

AQ-3 DEVELOPMENT ASSOCIATED WITH IMPLEMENTATION OF THE PROPOSED PROJECT COULD RESULT IN LOCALIZED EMISSIONS IMPACTS OR EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS.

Impact Analysis:

<u>Localized Significance Thresholds</u>

Localized Significance Thresholds (LSTs) were developed in response to SCAQMD Governing Boards' Environmental Justice Enhancement Initiative (I-4). The SCAQMD provided the *Final Localized Significance Threshold Methodology* (dated June 2003 [revised 2008]) for guidance. The LST methodology assists lead agencies in analyzing localized impacts associated with project-specific level proposed projects. The project site is located within Sensitive Receptor Area (SRA) 18, North Coastal Orange County. The closest sensitive receptors are the residential uses, approximately 25 meters south of the southern project boundary. As the project site is 4.25 acres, the construction and operation thresholds were interpolated between the 2- and 5-acre thresholds. <u>Table 5.6-7</u>, <u>*Localized Significance of Emissions*</u>, depicts the mitigated construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the LSTs for SRA 18, North Coastal Orange County. As shown in <u>Table 5.6-7</u>, construction emissions would not exceed the LSTs. Additionally, operational emissions would not exceed the LSTs for SRA 18. Therefore, localized significance impacts for proposed project operations would be less than significant.

Table 5.6-7
Localized Significance of Emissions

On-Site Sources	Pollutant (pounds/day)			
	NO_X	CO	PM_{10}	$PM_{2.5}$
CONSTRUCTION [1,2]				
Year 1				
Total Mitigated On-Site Emissions [3, 4]	68.65	46.88	8.96	5.96
Localized Significance Threshold	*181*	*1,520*	*12*	*8*
Thresholds Exceeded?	***No***	***No***	***No***	***No***
Year 2				
Total Mitigated On-Site Emissions	45.20	32.51	3.03	2.84
Localized Significance Threshold	*181*	*1,520*	*12*	*8*
Thresholds Exceeded?	***No***	***No***	***No***	***No***
OPERATIONS [1,2]				
Area Source Emissions	0.00	0.00	0.00	0.00
Localized Significance Threshold	*181*	*1,520*	*4*	*2*
Thresholds Exceeded?	***No***	***No***	***No***	***No***

Note:
1. The Localized Significance Threshold was determined using Appendix C of the SCAQMD *Final Localized Significant Threshold Methodology* guidance document for pollutants NO_X, CO, PM_{10}, and $PM_{2.5}$. The Localized Significance Threshold is interpolated between the 2 and 5 acre thresholds, the distance to sensitive receptors (25 meters), and the source receptor area (SRA 18).
2. The closest receptors are 25 meters away.
3. The highest mitigated on-site NOx and CO emissions are from the Demolition phase.
4. The highest mitigated on-site PM_{10} and $PM_{2.5}$ emissions are from the Grading phase.

Carbon Monoxide Hotspots

CO emissions are a function of vehicle idling time, meteorological conditions and traffic flow. Under certain extreme meteorological conditions, CO concentrations near a congested roadway or intersection may reach unhealthful levels (i.e., adversely affect residents, school children, hospital patients, the elderly, etc.). The SCAQMD requires a quantified assessment of CO hotspots when a project increases the volume-to-capacity ratio (also called the intersection capacity utilization) by 0.02 (two percent) for any intersection with an existing level of service LOS D or worse. Because traffic congestion is highest at intersections where vehicles queue and are subject to reduced speeds, these hotspots are typically produced at intersections.

The City is located in the South Coast Air Basin (Basin), which is designated as an attainment/maintenance area for the Federal CO standards and an attainment area for State standards. There has been a decline in CO emissions even though vehicle miles traveled on U.S. urban and rural roads have increased. On-road mobile source CO emissions have declined 24 percent between 1989 and 1998, despite a 23 percent rise in motor vehicle miles traveled over the same 10 years. California trends have been consistent with national trends; CO emissions declined 20 percent in California from 1985 through 1997 while vehicle miles traveled increased 18 percent in the 1990s. Three major control programs have contributed to the reduced per-vehicle CO emissions: exhaust standards, cleaner burning fuels, and motor vehicle inspection/maintenance programs.

A detailed CO analysis was conducted in the *Federal Attainment Plan for Carbon Monoxide* (CO Plan) for the SCAQMD's *2003 Air Quality Management Plan*. The locations selected for microscale modeling in the CO Plan are worst-case intersections in the Basin, and would likely experience the highest CO concentrations. Thus, CO analysis within the CO Plan is utilized in a comparison to the proposed project, since it represents a worst-case scenario with heavy traffic volumes within the Basin.

Of these locations, the Wilshire Boulevard/Veteran Avenue intersection in Los Angeles experienced the highest CO concentration (4.6 ppm), which is well below the 35-ppm 1-hr CO Federal standard. The Wilshire Boulevard/Veteran Avenue intersection is one of the most congested intersections in Southern California with an average daily traffic (ADT) volume of approximately 100,000 vehicles per day. As the CO hotspots were not experienced at the Wilshire Boulevard/Veteran Avenue intersection, it can be reasonably inferred that CO hotspots would not be experienced at any intersections within the City of Newport Beach near the project site due to the low volume of traffic (1,062 daily trips) that would occur as a result of project implementation. Therefore, impacts would be less than significant in this regard.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

CONSISTENCY WITH REGIONAL PLANS

AQ-4 IMPLEMENTATION OF THE PROPOSED PROJECT COULD CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN.

Impact Analysis: On December 7, 2012, the SCAQMD Governing Board approved the 2012 AQMP, which outlines its strategies for meeting the NAAQS for $PM_{2.5}$ and ozone. The 2012 AQMP was forwarded to CARB for inclusion into the California State Implementation Plan (SIP) on January 2013. Subsequently, the 2012 AQMP was submitted to the EPA on February 13, 2013 as the 24-hour $PM_{2.5}$ SIP addressing the 2006 $PM_{2.5}$ NAAQS and as a limited update to the approved 8-hour ozone SIP. The 1-hour ozone attainment demonstration and vehicle miles traveled (VMT) emissions offset demonstration will also be submitted through CARB to the EPA. According to the SCAQMD's 2012 AQMP, two main criteria must be addressed.

Criterion 1

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis for a project include forecasts of project emissions in relation to contributing to air quality violations and delay of attainment.

a) *Would the project result in an increase in the frequency or severity of existing air quality violations?*

   Since the consistency criteria identified under the first criterion pertain to pollutant concentrations, rather than to total regional emissions, an analysis of a project's pollutant emissions relative to localized pollutant concentrations is used as the basis for evaluating project consistency.

   As previously discussed, localized concentrations of CO, NO_X, PM_{10}, and $PM_{2.5}$ would be less than significant during proposed project operations. Therefore, the proposed project would not result in an increase in the frequency or severity of existing air quality violations. Because ROGs are not a criteria pollutant, there is no ambient standard or localized threshold for ROGs. Due to the role ROG plays in ozone formation, it is classified as a precursor pollutant and only a regional emissions threshold has been established.

b) *Would the project cause or contribute to new air quality violations?*

   As previously discussed, proposed project operations would result in emissions that would not exceed the SCAQMD operational thresholds. Therefore, the proposed project would not have the potential to cause or affect a violation of the ambient air quality standards.

c) *Would the project delay timely attainment of air quality standards or the interim emissions reductions specified in the AQMP?*

   The proposed project would result in less than significant impacts with regard to localized concentrations during operations. As such, the proposed project would not delay the timely attainment of air quality standards or 2012 AQMP emissions reductions.

Criterion 2

With respect to the second criterion for determining consistency with SCAQMD and SCAG air quality policies, it is important to recognize that air quality planning within the Basin focuses on attainment of ambient air quality standards at the earliest feasible date. Projections for achieving air quality goals are based on assumptions regarding population, housing, and growth trends. Thus, the

SCAQMD's second criterion for determining project consistency focuses on whether or not the proposed project exceeds the assumptions utilized in preparing the forecasts presented in the 2012 AQMP. Determining whether or not a project exceeds the assumptions reflected in the 2012 AQMP involves the evaluation of the three criteria outlined below. The following discussion provides an analysis of each of these criteria.

a) *Would the project be consistent with the population, housing, and employment growth projections utilized in the preparation of the AQMP?*

In the case of the *2012 AQMP*, three sources of data form the basis for the projections of air pollutant emissions: the *City of Newport Beach General Plan* (General Plan), SCAG's *Growth Management* Chapter of the *Regional Comprehensive Plan* (RCP), and SCAG's *2012-2035 Regional Transportation Plan/Sustainable Communities Strategy* (RTP/SCS). The RTP/SCS also provides socioeconomic forecast projections of regional population growth.

The project site is designated Public Facilities (PF) by the *General Plan*. The project proposes a General Plan amendment with text and map changes, among other entitlements, which would change the existing land use designation PF with a new mixed-use land use category Mixed-Use Horizontal 5 (MU-H5). The MU-H5 designation incorporates a mixed use approach that allows for the horizontal or vertical intermixing of commercial, visitor accommodations, residential, and/or civic uses. Civic uses may include, but are not limited to, a community center, public plazas, a fire station, and/or public parking. The project proposes to change the site's *General Plan* designation to MU-H5 and establish density and intensity limits within Land Use Element Table LU2, Anomaly Locations, by establishing a new anomaly location. The proposed project is considered consistent with the General Plan designation as the project involves a development of a hotel. Further, as demonstrated in Section 5.1, *Land Use and Relevant Planning*, the proposed project is determined to be consistent with the relevant General Plan Policies.

Additionally, as described in Section 6.3, *Growth Inducing Impacts*, the Project would be consistent with SCAG's growth projections for the City. The proposed project would be considered growth inducing with respect to fostering population growth through additional employment opportunities. However, this impact is considered less than significant, since project implementation would represent only a nominal increase over the City's existing population due to the relatively small scale of the project.

Thus, the proposed project is consistent with the types, intensity, and patterns of land use envisioned for the site vicinity in the RCP. The population, housing, and employment forecasts, which are adopted by SCAG's Regional Council, are based on the local plans and policies applicable to the City; these are used by SCAG in all phases of implementation and review. Additionally, as the SCAQMD has incorporated these same projections into the 2012 AQMP, it can be concluded that the proposed project would be consistent with the projections.

b) *Would the project implement all feasible air quality mitigation measures?*

The proposed project would be required to comply with applicable emission reduction measures identified by the SCAQMD. These measures have been included as Mitigation

Measures AQ-1 and AQ-2. As such, the proposed project meets this AQMP consistency criterion.

c) *Would the project be consistent with the land use planning strategies set forth in the AQMP?*

The proposed project would serve to implement various City and SCAG policies. The proposed project is located within a developed portion of the City, and is considered to be an infill development. The project site is located at the northeast corner of the intersection of Newport Boulevard and 32nd Street in the vicinity of a mix of uses including residential, industrial, institutional, and commercial.

In conclusion, the determination of 2012 AQMP consistency is primarily concerned with the long-term influence of a project on air quality in the Basin. The proposed project would be consistent with the goals and policies of the AQMP for control of fugitive dust. As discussed above, the proposed project's long-term influence would also be consistent with the SCAQMD and SCAG's goals and policies and is, therefore, considered consistent with the 2012 AQMP.

Mitigation Measures: Refer to Mitigation Measures AQ-1 and AQ-2.

Level of Significance: Less Than Significant With Mitigation Incorporated.

ODOR IMPACTS

AQ-5 CONSTRUCTION AND OPERATION OF THE PROPOSED PROJECT COULD CREATE OBJECTIONABLE ODORS AFFECTING A SUBSTANTIAL NUMBER OF PEOPLE.

Impact Analysis: According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. The proposed project does not include any uses identified by the SCAQMD as being associated with odors.

Construction activities associated with the proposed project may generate detectable odors from heavy-duty equipment exhaust. Construction-related odors would be short-term in nature and cease upon construction completion. Any impacts to existing adjacent land uses would be short-term and are considered less than significant.

Mitigation Measures: No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.6.5 CUMULATIVE IMPACTS

<u>Table 4.1</u>, <u>*Cumulative Projects List*</u>, identifies the related projects and other possible development in the area determined as having the potential to interact with the proposed project to the extent that a significant cumulative effect may occur. The following discussions are included per topic area to determine whether a significant cumulative effect would occur.

SHORT-TERM (CONSTRUCTION) AIR EMISSIONS

- **SHORT-TERM CONSTRUCTION ACTIVITIES ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN AIR POLLUTANT EMISSION IMPACTS OR EXPOSE SENSITIVE RECEPTORS TO SUBSTANTIAL POLLUTANT CONCENTRATIONS.**

Impact Analysis: The SCAQMD neither recommends quantified analyses of cumulative construction emissions, nor does it provide separate methodologies or thresholds of significance to be used to assess cumulative construction impacts. The SCAQMD significance thresholds for construction are intended to meet the objectives of the AQMP to ensure the Federal and California NAAQS are not exceeded. As the project Applicant has no control over the timing or sequencing of the related projects, any quantitative analysis to ascertain the daily construction emissions that assumes multiple, concurrent construction would be speculative. In addition, construction-related criteria pollutant emissions are temporary in nature and cease following project completion. Project compliance with SCAQMD rules and regulations and Mitigation Measures AQ-1 and AQ-2 would reduce construction-related impacts to less than significant levels. Per SCAQMD rules and mandates, as well as the CEQA requirement that significant impacts be mitigated to the extent feasible, these same requirements (i.e., Rule 403 compliance, the implementation of all feasible mitigation measures, and compliance with adopted AQMP emissions control measures) would also be imposed on construction projects throughout the Basin, which would include each of the related projects listed in Section 4.0, *Basis of Cumulative Analysis*. Therefore, as cumulative projects would be required to reduce their emissions per SCAQMD rules and mandates, cumulative construction emissions would not contribute to an exceedance of the Federal or California NAAQS and would, therefore, comply with the goals of the 2012 AQMP. Thus, it can be reasonably inferred that the project-related construction activities, in combination with those from other projects in the area, would not deteriorate the local air quality and would not result in cumulative construction-related impacts.

***Mitigation Measures*:** Refer to Mitigation Measures AQ-1 and AQ-2.

Level of Significance: Less Than Significant With Mitigation Incorporated.

LONG-TERM (OPERATIONAL) AIR EMISSIONS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD RESULT IN SIGNIFICANT IMPACTS PERTAINING TO OPERATIONAL AIR EMISSIONS.**

The SCAQMD has set forth both a methodological framework as well as significance thresholds for the assessment of a project's cumulative operational air quality impacts. The SCAQMD's approach for assessing cumulative impacts is based on the SCAQMD's AQMP forecasts of attainment of NAAQS in accordance with the requirements of the Federal and State CAAs. This forecast also takes into account SCAG's AQMP forecasted future regional growth. As such, the analysis of cumulative impacts focuses on determining whether the proposed project is consistent with the growth assumptions upon which the SCAQMD's AQMP is based. If the project is consistent with the growth assumptions, then future development would not impede the attainment of NAAQS and a significant cumulative air quality impact would not occur.

Based on the SCAQMD's methodology, a project would have a significant cumulative air quality impact if the project's contribution to VMT growth exceeds its contribution to population growth in the region. This is determined by comparing the following two ratios:

- The ratio of daily project-related VMT to daily countywide VMT; and
- The ratio of project-related population growth to countywide population growth.

As shown in Table 5.6-8, *Project Cumulative Air Quality Impacts*, the project's VMT ratio does not exceed the population ratio. Based on these criteria, development of the proposed project would have a less than significant impact in this regard. As such, the mass regional emissions that would occur as a result of the proposed project would not be cumulatively considerable.

Table 5.6-8
Project Cumulative Air Quality Impacts

Cumulative Air Quality Criteria	VMT, Population, and Cumulative Ratios
Daily Vehicle Miles Traveled for Project Population[1]	6,676
Daily Vehicle Miles Traveled Countywide[2]	80,847,824
Daily Vehicle Miles Traveled Ratio	*0.00008*
Project Related Population Increase[3]	40
Countywide Population Increase[4]	184,196
Population Ratio	*0.00022*
Significance Test (Daily Vehicle Miles Traveled Ratio Greater Than Population Ratio)	**No**
VMT = Vehicle Miles Traveled	

Notes:
1 – Increase of VMT based on CalEEMod outputs (refer to Appendix 11.4, *Air Quality/Greenhouse Gas Emissions Data*).
2 – Data obtained from EMFAC 2011.
3 – Refer to Section 6.3, *Growth-Inducing Impacts.* The project would generate 75 hotel employees. Assuming 25 percent would relocate to the City and 2.089 persons per household, the project would result in a population increase of 40 persons.
4 – Increase of Countywide Population based on Southern California Association of Governments, *Adopted 2012 Regional Transportation Plan Growth Forecast, By City,* http://www.scag.ca.gov/forecast/index.htm, 2020 population forecasts subtracted by 2013 population estimates; refer to Section 6.3, *Growth-Inducing Impacts*.

***Mitigation Measures*:** No mitigation measures are required

Level of Significance: Less Than Significant Impact.

CONSISTENCY WITH REGIONAL PLANS

- **DEVELOPMENT ASSOCIATED WITH THE PROPOSED PROJECT COULD CONFLICT WITH OR OBSTRUCT IMPLEMENTATION OF THE APPLICABLE AIR QUALITY PLAN.**

The City is subject to the SCAQMD's 2012 AQMP. Additionally, the City is located within the Orange County subregion of the SCAG 2008 RCP, which governs population growth. The General Plan is consistent with the 2008 RCP, and since the 2008 RCP is consistent with the 2012 AQMP, growth under the General Plan is consistent with the 2012 AQMP. The General Plan, which is the current land use plan for the site, designates the project site as PF. Implementation of the proposed project would change the site designation to MU-H5 in order to allow for the development of a mixed use approach consisting of horizontal or vertical intermixing of commercial, visitor accommodations, residential, and/or civic uses. The proposed project would result in less growth than that allowed by the General Plan. Therefore, the project would not increase the amount of growth assumed in the 2012 AQMP. Thus, development in the City would not conflict or obstruct the 2012 AQMP. Also, as the proposed project would be consistent with the 2012 AQMP (refer to the discussion above), the project would not cumulatively contribute to impacts in this regard.

***Mitigation Measures*:** No mitigation measures are required.

Level of Significance: Less Than Significant Impact.

5.6.6 SIGNIFICANT UNAVOIDABLE IMPACTS

No unavoidable significant impacts related to air quality have been identified following implementation of the recommended Mitigation Measures AQ-1 and AQ-2 and compliance with the applicable Federal, State, and local regulatory requirements.

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