# 3.2 Air Quality

This section provides an assessment of potential impacts related to air quality that could result from project implementation. Potential impacts addressed in this section are related to applicable air quality plans or regulations, sensitive receptors, objectionable odors, and cumulatively considerable net increase of any criteria pollutants. The analysis in this section is based on the Air Quality and Greenhouse Gas Emissions Technical Report (ESA 2017) and the Supplemental Air Quality and Greenhouse Gas Emissions Technical Memorandum (ESA 2018), both included as Appendix C of this EIR.

## 3.2.1 Environmental Setting

### Climate and Meteorology

The proposed project is located within the San Diego Air Basin (SDAB), which is under the jurisdiction of the San Diego Air Pollution Control District (SDAPCD). The SDAB is a 4,260-square-mile coastal plain that comprises the entire San Diego region, and is contiguous with the County boundary. The SDAB is geographically bounded by desert and mountain terrain to the north and east, Mexico to the south, and the Pacific Ocean to the west.

The topography in the San Diego region varies greatly, from beaches on the west to mountains and desert on the east, and is defined by mesa tops intersected by canyon areas. The topography in the San Diego region, along with local meteorology, influences the dispersal and movement of pollutants in the basin. The mountains to the east prevent dispersal of pollutants beyond them and help trap the pollutants in inversion layers.

Based on recent climate records from the Western Regional Climate Center (WRCC) monitoring station located in the City (Oceanside Marina [ID No. 046377]), the average annual maximum temperature in the region is approximately 67.6° F and the average annual minimum temperature is approximately 52.9° F.

In conjunction with the two characteristic onshore/offshore wind patterns, there are two types of temperature inversions (i.e., reversals of the normal decrease of temperature with height), which occur within the region that affect atmospheric dispersive capability and act to degrade local air quality. In the summer, an inversion at approximately 1,100 to 2,500 feet is formed over the entire coastal plain when the warm air mass over land is undercut by a shallow layer of cool marine air flowing offshore. The prevailing sunny days in the region further exacerbate smog by inducing additional adverse photochemical reactions. During the winter, a nightly, shallow inversion layer (usually at approximately 800 feet) forms between the cooler air at ground level and the warmer air above, which can trap air pollutants. The regional carbon monoxide (CO) concentrations are highest during the winter months.

The predominant onshore/offshore wind pattern is sometimes interrupted by “Santa Ana” conditions, when high-pressure systems over the Nevada-Utah area overcome the prevailing westerly winds, sending strong, steady, hot, and dry winds from the east over the mountains and out toward the Pacific Ocean. Strong Santa Ana winds tend to transport pollutants out over the ocean, producing clear days inland. However, at the onset or breakdown of these conditions, or if

the condition is weak, prevailing northwesterly winds strengthen and transport an air mass of contamination from the Los Angeles Basin to the SDAB.

## Criteria Pollutants

The California Air Resources Board (CARB) and the United States Environmental Protection Agency (USEPA) currently focus on the following air pollutants as indicators of ambient air quality: ozone, carbon monoxide (CO), nitrogen dioxide ($NO_2$), sulfur dioxide ($SO_2$), respirable or breathable particulate matter with an aerodynamic diameter of 10 micrometers or less (PM10), fine particulate matter with an aerodynamic diameter of 2.5 micrometers or less (PM2.5), and lead. The pollutants are referred to as "criteria air pollutants" since they are the most prevalent air pollutants known to be harmful to human health, and extensive health-effects criteria documents are available about their effects on human health and welfare. Standards have been established for each criteria pollutant to meet specific public health and welfare criteria set forth in the federal Clean Air Act (CAA). California has generally adopted more stringent ambient air quality standards for the criteria air pollutants and has adopted air quality standards for some pollutants for which there is no corresponding national standard. The National Ambient Air Quality Standards (NAAQS) and California Ambient Air Quality Standards (CAAQS) for each of the monitored pollutants and their effects on health are summarized in **Table 3.2-1**. The NAAQS and CAAQS have been set at levels considered safe to protect public health, including the health of sensitive populations such as asthmatics, children, and the elderly with a margin of safety; and to protect public welfare, including protection against decreased visibility and damage to animals, crops, vegetation, and buildings. A brief description of the health effects of regulated criteria air pollutants are provided below.

### *Ozone*

$O_3$, the main component of photochemical smog, is primarily a summer and fall air pollution problem. $O_3$ is not emitted directly into the air, but is formed through a complex series of chemical reactions involving other compounds that are directly emitted, known as ozone precursors, which include reactive organic gases (ROGs), also known as volatile organic compounds (VOCs), and oxides of nitrogen ($NO_X$).

### *Carbon Monoxide*

CO, a colorless and odorless gas, is a relatively nonreactive pollutant that is a product of incomplete combustion, mostly associated with motor vehicles. When inhaled at high concentrations, CO combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia. CO measurements and modeling were important in the early 1980s, when CO levels were regularly exceeded throughout California. In more recent years, CO measurements and modeling have not been a priority in most California air districts due to the retirement of older vehicles, lower CO emissions from new vehicles, and improvements in fuels.

**TABLE 3.2-1**
**AMBIENT AIR QUALITY STANDARDS FOR CRITERIA POLLUTANTS**

| Pollutant | Averaging Time | State Standard | National Standard | Pollutant Health and Atmospheric Effects | Major Pollutant Sources |
|---|---|---|---|---|---|
| **Ozone ($O_3$)** | 1 hour | 0.09 ppm | No National Standard | High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue. | Formed when ROG and $NO_X$ react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial/industrial mobile equipment. |
| | 8 hours | 0.07 ppm | 0.07 ppm | | |
| **Carbon Monoxide (CO)** | 1 hour | 20 ppm | 35 ppm | Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen. | Internal combustion engines, primarily gasoline-powered motor vehicles. |
| | 8 hours | 9 ppm | 9 ppm | | |
| **Nitrogen Dioxide ($NO_2$)** | 1 hour | 0.18 ppm | 0.1 ppm | Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. | Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads. |
| | Annual Arithmetic Mean | 0.03 ppm | 0.053 ppm | | |
| **Sulfur Dioxide ($SO_2$)** | 1 hour | 0.25 ppm | 75 ppb | Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight. | Fuel combustion, chemical plants, sulfur recovery plants, and metal processing. |
| | 3 hours | No State Standard | 0.50 ppm | | |
| | 24 hours | 0.04 ppm | 0.14 ppm | | |
| | Annual Arithmetic Mean | No State Standard | 0.03 ppm | | |
| **Respirable Particulate Matter ($PM_{10}$)** | 24 hours | 50 µg/m$^3$ | 150 µg/m$^3$ | May irritate eyes and respiratory tract, decrease lung capacity, and contribute to cancer and increased mortality. Produces haze and limits visibility. | Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays). |
| | Annual Arithmetic Mean | 20 µg/m$^3$ | No National Standard | | |
| **Fine Particulate Matter ($PM_{2.5}$)** | 24 hours | No State Standard | 35 µg/m$^3$ | Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling. | Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including $NO_X$, sulfur oxides, and organics. |
| | Annual Arithmetic Mean | 12 µg/m$^3$ | 12 µg/m$^3$ | | |
| **Lead (Pb)** | 30-Day Average | 1.5 µg/m$^3$ | No National Standard | Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction (in severe cases). | Present source: lead smelters, battery manufacturing and recycling facilities. Past source: combustion of leaded gasoline. |
| | Calendar Quarter | No State Standard | 1.5 µg/m$^3$ | | |
| | Rolling 3-Month Average | No State Standard | 0.15 µg/m$^3$ | | |
| **Hydrogen Sulfide** | 1 hour | 0.03 ppm | No National Standard | Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations) | Geothermal power plants, petroleum production and refining |
| **Sulfates ($SO_4$)** | 24 hour | 25 µg/m$^3$ | No National Standard | Decrease in ventilatory functions; aggravation of asthmatic symptoms; aggravation of cardio-pulmonary disease; vegetation damage; degradation of visibility; property damage. | Industrial processes. |
| **Visibility Reducing Particles** | 8 hour | Extinction of 0.23/km; visibility of 10 miles or more | No National Standard | Reduces visibility, reduced airport safety, lower real estate value, and discourages tourism. | See $PM_{2.5}$. |

NOTE: ppm = parts per million; ppb = parts per billion; µg/m$^3$ = micrograms per cubic meter.

SOURCE: CARB 2016.

### *Nitrogen Dioxide*

$NO_2$ is a reddish-brown gas that is a by-product of the combustion processes. Motor vehicles and industrial operations are the main sources of $NO_2$. Combustion devices emit primarily nitric oxide (NO), which reacts through oxidation in the atmosphere to form $NO_2$. The combined emissions of NO and $NO_2$ are referred to as $NO_X$, which are reported as equivalent $NO_2$. Aside from its contribution to ozone formation, $NO_2$ can increase the risk of acute and chronic respiratory disease and reduce visibility. $NO_2$ may be visible as a coloring component of brown clouds on high-pollution days, especially in conjunction with high $O_3$ levels.

### *Sulfur Dioxide*

$SO_2$ is a colorless, extremely irritating gas or liquid that enters the atmosphere as a pollutant, mainly as a result of burning high sulfur-content fuel oils and coal, and from chemical processes occurring at chemical plants and refineries. When $SO_2$ oxidizes in the atmosphere, it forms sulfur trioxide ($SO_3$). Collectively, these pollutants are referred to as sulfur oxides ($SO_X$).

### *Particulate Matter*

$PM_{10}$ and $PM_{2.5}$ consist of particulate matter (PM) that is 10 microns[1] or less in diameter and 2.5 microns or less in diameter, respectively. $PM_{10}$ and $PM_{2.5}$ can be inhaled and cause adverse health effects. Acute and chronic health effects associated with high PM levels include the aggravation of chronic respiratory diseases, heart and lung disease, coughing, bronchitis, and respiratory illnesses in children. Recent mortality studies have shown an association between morbidity and mortality and daily concentrations of PM in the air. PM can also damage materials and reduce visibility. One common source of $PM_{2.5}$ is diesel exhaust emissions.

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

### *Lead*

Pb is a metal found naturally in the environment and present in some manufactured products. The proposed project would not generate Pb emissions; thus, Pb is not discussed further in this analysis.

## Toxic Air Contaminants

Concentrations of toxic air contaminants (TACs), or in federal parlance hazardous air pollutants (HAPs), are also used as indicators of ambient air quality conditions. A TAC is defined as an air

[1] A micron is one-millionth of a meter.

pollutant that may cause or contribute to an increase in mortality or in serious illness, or that may pose a hazard to human health. TACs are usually present in minute quantities in the ambient air mass; however, their high toxicity and/or health risk may pose a threat to public health even at low concentrations.

According to the California Almanac of Emissions and Air Quality, the majority of the estimated health risk from TACs can be attributed to relatively few compounds, the most important being PM from diesel-fueled engines (diesel PM) (CARB 2009a). Diesel PM differs from other TACs in that it is not a single substance, but rather a complex mixture of hundreds of substances. Although diesel PM is emitted by diesel-fueled internal combustion engines, the composition of diesel PM emissions varies depending on engine type, operating conditions, fuel composition, lubricating oil, and whether an emission control system is present.

## Odorous Emissions

Odors are generally regarded as an annoyance rather than a health hazard. However, manifestations of a person's reaction to foul odors can range from psychological (e.g., irritation, anger, or anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, and headache). Offensive odors are unpleasant and can lead to public distress, generating citizen complaints to local governments. Although unpleasant, offensive odors rarely cause physical harm. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

## Project Area Quality

Ambient air quality in San Diego County is measured through a system of monitoring stations established at various locations throughout the County, operated by the SDAPCD. The station nearest to the city is the Camp Pendleton Station located at 21441 West B Street on Marine Corps Base Camp Pendleton, approximately 0.5 mile north of the project area, within the coastal zone, and considered most representative of the city's ambient air quality for the criteria pollutants. The latest available annual air quality data for this station, 2013 through 2015, are provided in **Table 3.2-2**. CO, $SO_2$, and $PM_{10}$ are not measured at the Camp Pendleton Station, or any other monitoring station within the project area that is representative of the project area's air quality conditions. Therefore, measurements from these pollutants are not included in Table 3.2-2.

Both the CARB and USEPA use this type of monitoring data to designate areas according to their attainment status for criteria air pollutants. The purpose of these designations is to identify the areas with air quality problems and thereby initiate planning efforts for improvement. The three basic attainment designation categories are nonattainment, attainment, and unclassified. Unclassified is designated for an area that cannot be classified on the basis of available information as meeting or not meeting the standards. In addition, the California attainment designations include a subcategory of nonattainment-transitional, which is given to nonattainment areas that are progressing and nearing attainment. The current attainment status for the SDAB is provided in **Table 3.2-3**.

**TABLE 3.2-2**
**AIR QUALITY DATA SUMMARY (2013–2015) FOR PROJECT AREA**

| Pollutant | Standard[a] | Monitoring Data by Year | | |
|---|---|---|---|---|
| | | 2013 | 2014 | 2015 |
| **Ozone** | | | | |
| Highest 1-Hour Average (ppm) | | 0.08 | **0.100** | **0.09** |
| Days over State Standard | 0.09 ppm | 0 | 1 | 1 |
| Highest 8-Hour Average (ppm) | | 0.07 | **0.08** | **0.08** |
| Days over National Standard | 0.075 ppm | 0 | 1 | 1 |
| Days over State Standard | 0.07 ppm | 0 | 5 | 3 |
| **Carbon Monoxide d** | | | | |
| Highest 8-Hour Average (ppm) | | * | * | * |
| Days over National Standard | 9 ppm | * | * | * |
| Days over State Standard | 9 ppm | * | * | * |
| **Nitrogen Dioxide** | | | | |
| Highest 1-Hour Average (ppm) | | 0.081 | 0.060 | 0.060 |
| Days over National Standard | 0.1 ppm | 0 | 0 | 0 |
| Days over State Standard | 0.18 ppm | 0 | 0 | 0 |
| Annual Average (ppm) | | * | 0.007 | 0.007 |
| Days over National Standard | 0.053 ppm | 0 | 0 | 0 |
| Days over State Standard | 0.03 ppm | 0 | 0 | 0 |
| **Sulfur Dioxide** [d] | | | | |
| Highest 24-Hour Average (ppm) | | * | * | * |
| Days over State Standard | 0.04 ppm | * | * | * |
| **Particulate Matter ($PM_{10}$)** [d] | | | | |
| Highest 24-Hour Average ($\mu g/m^3$)[b] | | * | * | * |
| Days over National Standard (measured)[c] | 150 $\mu g/m^3$ | * | * | * |
| Days over State Standard (measured)[c] | 50 $\mu g/m^3$ | * | * | * |
| Annual Average ($\mu g/m^3$)[b] | 20 $\mu g/m^3$ | * | * | * |
| **Particulate Matter ($PM_{2.5}$) –** | | | | |
| Highest 24-Hour Average ($\mu g/m^3$)[b] | | 42.3 | 28.0 | 41.2 |
| Days over National Standard (measured)[c] | 35 $\mu g/m^3$ | 1 | 0 | * |
| Annual Average ($\mu g/m^3$)[b] | 12 $\mu g/m^3$ | 8.5 | * | * |

NOTES:
ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.
* = Insufficient data available to determine the value.

[a] Generally, state standards and national standards are not to be exceeded more than once per year.

[b] Concentrations and averages represent federal statistics. State and federal statistics may differ because of different sampling methods.

[c] Measurements are usually collected every 6 days. Days over the standard represent the measured number of days that the standard has been exceeded.

[d] Pollutant not monitored at air monitoring site representative of project area.

SOURCE: SDAPCD 2016a

**TABLE 3.2-3**
**SAN DIEGO AIR BASIN ATTAINMENT STATUS**

| | Attainment Status | |
|---|---|---|
| **Pollutant** | **California Standards** | **Federal Standards** |
| $O_3$ – 1 hour | Nonattainment | No Federal Standard |
| $O_3$ –8 hours | Nonattainment | Nonattainment |
| CO | Attainment | Unclassified/Attainment |
| $NO_2$ | Attainment | Unclassified/Attainment |
| $SO_2$ | Attainment | Attainment |
| $PM_{10}$ | Nonattainment | Unclassified |
| $PM_{2.5}$ | Nonattainment | Unclassified/Attainment |
| Pb | Unclassified/Attainment | Unclassified/Attainment |

SOURCE: SDAPCD 2016b.

## Sensitive Receptors

Air quality sensitive receptors are individuals who are considered more sensitive to air pollutants than others. The reasons for greater-than-average sensitivity may include pre-existing health problems, proximity to emissions sources, or duration of exposure to air pollutants. Schools, hospitals, and convalescent homes are considered to be relatively sensitive to poor air quality because children, elderly people, and the infirm are more susceptible to respiratory distress and other air-quality-related health problems than the general public. Residential areas are considered sensitive to poor air quality because, in general, people are at their residences for extended periods of time, with greater exposure time to poor ambient air quality. Recreational uses are also considered sensitive due to the greater exposure to poor ambient air quality conditions because vigorous exercise associated with recreation places a high demand on the human respiratory system, resulting in inhaling more pollutants and aggravating respiratory conditions.

Sensitive receptors located in the project area include Oceanside High School, Saint Mary Star of the Sea Elementary and Middle School, Santa Margarita Elementary School, South Oceanside Elementary School, and Naval Hospital Camp Pendleton, all of which are within 0.5 mile from the project area. The nearest sensitive receptors include various single-family and multi-family residential homes adjacent to the Coast Highway corridor.

# 3.2.2 Regulatory Setting

The following discussion provides a summary of the regulations, programs, and plans associated with air quality related to the proposed project. Refer to Appendix C for a full description of the regulatory setting for air quality.

# Federal

## *Clean Air Act*

The principal air quality regulatory mechanism at the federal level is the CAA, and in particular, the 1990 amendments to the CAA and the NAAQS they establish. The NAAQS identify the maximum ambient (background) concentration levels of criteria pollutants that are considered to be safe, with an adequate margin of safety, to protect public health and welfare. As discussed previously, the criteria pollutants include $O_3$, CO, $NO_2$ (which is a form of $NO_X$), $SO_2$ (which is a form of $SO_X$), $PM_{10}$, $PM_{2.5}$, and Pb.

The CAA also requires each state to prepare an air quality control plan, referred to as a state implementation plan (SIP). The CAA Amendments of 1990 (CAAA) added requirements for states with nonattainment areas to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is modified periodically to reflect the latest emissions inventories, planning documents, and rules and regulations of the air basins, as reported by their jurisdictional agencies. USEPA is responsible for reviewing all SIPs to determine whether they conform to the mandates of the CAA and its amendments, and to determine whether implementing the SIPs will achieve air quality goals. USEPA's primary role at the state level is to oversee the state air quality programs. USEPA sets federal vehicle and stationary source emissions standards and provides research and guidance in air pollution programs.

# State

## *California Air Resources Board*

CARB, a department of the California Environmental Protection Agency (Cal/EPA), oversees air quality planning and control throughout California by administering the SIP. Its primary responsibility lies in ensuring implementation of the 1989 Amendments to the California Clean Air Act (CCAA), responding to the federal CAA requirements, and regulating emissions from motor vehicles sold in California. CARB also sets fuel specifications to further reduce vehicular emissions.

The CCAA established CAAQS, and a legal mandate to achieve these standards by the earliest practical date. CAAQS apply to the same criteria pollutants as the federal CAA, and also include sulfates, visibility reducing particulates, hydrogen sulfide and vinyl chloride. CAAQS are also generally more stringent than the NAAQS.

CARB is also responsible for regulations pertaining to TACs. The Air Toxics "Hot Spots" Information and Assessment Act was enacted in 1987 as a means to establish a formal air toxics emission inventory risk quantification program. Assembly Bill (AB) 2588, as amended, establishes a process that requires stationary sources to report the type and quantities of certain substances their facilities routinely release.

In 2004, CARB adopted an Airborne Toxic Control Measure (ATCM) to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs (Title 13 California Code of Regulations [CCR], Section 2485). The measure applies to diesel-fueled

commercial vehicles with gross vehicle weight ratings greater than 10,000 pounds that are licensed to operate on highways, regardless of where they are registered. This measure does not allow diesel-fueled commercial vehicles to idle for more than 5 minutes at any given time.

In 2008, CARB also approved the Truck and Bus regulation to reduce PM and $NO_X$ emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection [h]). The requirements were amended to apply to nearly all diesel-fueled trucks and buses with a gross vehicle weight rating (GVWR) greater than 14,000 pounds. This regulation is phased over 8 years, starting in 2015, and would be fully implemented by 2023, meaning that all trucks operating in the State subject to this regulation would meet or exceed the 2010 engine emission standards for $NO_X$ and PM by 2023.

In addition to limiting exhaust from idling trucks, CARB also promulgated emission standards for off-road diesel construction equipment of greater than 25 horsepower (hp) such as bulldozers, loaders, backhoes, and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by CARB on July 26, 2007 aims to reduce emissions by installation of diesel soot filters and encouraging the retirement, replacement, or repower of older, dirtier engines with newer emission-controlled models (13 CCR, Section 2449). Implementation is staggered based on fleet size (which is the total of all off-road horsepower under common ownership or control), with large fleets beginning compliance in 2014, medium fleets in 2017, and small fleets in 2019. Full compliance is required by 2023 in all equipment for large and medium fleets and by 2028 for small fleets.

### *Title 24, Building Standards Code and California Green Building Standards Code*

The California Energy Commission first adopted the Energy Efficiency Standards for Residential and Nonresidential Buildings (California Code of Regulations, Title 24, Part 6) in 1978 in response to a legislative mandate to reduce energy consumption in the state. Although not originally intended to reduce criteria pollutant emissions, increased energy efficiency, and reduced consumption of electricity, natural gas, and other fuels would result in fewer criteria pollutant emissions from residential and nonresidential buildings subject to the standard. The standards are updated periodically to allow for the consideration and inclusion of new energy efficiency technologies and methods.

Part 11 of the Title 24 Building Energy Efficiency Standards is referred to as the California Green Building Standards (CALGreen) Code. The purpose of the CALGreen Code is to "improve public health, safety and general welfare by enhancing the design and construction of buildings through the use of building concepts having a positive environmental impact and encouraging sustainable construction practices in the following categories: (1) Planning and design; (2) Energy efficiency; (3) Water efficiency and conservation; (4) Material conservation and resource efficiency; and (5) Environmental air quality." The CALGreen Code is not intended to substitute for or be identified as meeting the certification requirements of any green building program that is not established and adopted by the California Building Standards Commission. When the CALGreen Code went into effect in 2009, compliance through 2010 was voluntary. As of January 1, 2011, the

CALGreen Code is mandatory for all new buildings constructed in the state. The CALGreen Code establishes mandatory measures for new residential and nonresidential buildings. Such mandatory measures include energy efficiency, water conservation, material conservation, planning and design, and overall environmental quality. The CALGreen Code was most recently updated in 2016 to include new mandatory measures for residential as well as nonresidential uses; the new measures took effect on January 1, 2017.

### *Renewables Portfolio Standard*

On April 12, 2011, Governor Jerry Brown signed SB X1-2 to increase California's Renewables Portfolio Standard, which mandates that a set proportion of the state's energy be generated using renewable sources (e.g., solar, wind, hydroelectric), to 33 percent by 2020. SB 350 (Chapter 547, Statues of 2015) further increased the Renewables Portfolio Standard to 50 percent by 2030. The legislation also included interim targets of 40 percent by 2024 and 45 percent by 2027. SB 350 was signed into law on October 7, 2015.

## Regional

### *Sustainable Communities Strategies*

In October 2015 the San Diego Association of Governments (SANDAG) adopted the 2015 Sustainable Communities Strategies (SCS), which builds on the previous 2011 SCS and directs investments within existing urbanized areas to encourage growth within existing higher-density urban boundaries and discourages urban and suburban sprawl. Elements of the 2015 SCS that have been implemented include the completion of bicycle and pedestrian projects and the expansion of transit with new rapid bus service. The goals of the 2015 SCS include increasing the number of homes and jobs near transit, reducing transit travel time, and achieving economic benefits due to reduced congestion and the construction of transportation infrastructure, as well as reducing air pollutant emissions.

### *San Diego Air Pollution Control District*

SDAPCD is the agency responsible for protecting the public health and welfare in the SDAB through the administration of federal and state air quality laws and policies. Included in SDAPCD's tasks are the monitoring of air pollution, the preparation of the County's portion of the SIP, and the promulgation of rules and regulations. The SIP includes strategies and tactics to be used to attain and maintain acceptable air quality in the SDAB; this list of strategies is called the San Diego Regional Air Quality Strategy (RAQS) (SDAPCD 2009). The rules and regulations include procedures and requirements to control the emission of pollutants and prevent significant adverse impacts.

The following SDAPCD rules and regulations apply to new construction:

- Regulation IV: Prohibitions; Rule 50: Visible Emissions. Specifies standards for the discharge of any air contaminant other than uncombined water vapor, except as otherwise provided in Section (b) of the Rule.

- Regulation IV: Prohibitions; Rule 51: Nuisance. Prohibits the discharge, from any source, of such quantities of air contaminants or other materials that cause or have a tendency to cause injury, detriment, nuisance, annoyance to people and/or the public, or damage to any business or property.
- Regulation IV: Prohibitions; Rule 55: Fugitive Dust. Regulates fugitive dust emissions from any commercial construction or demolition activity capable of generating fugitive dust emissions, including active operations, open storage piles, and inactive disturbed areas, as well as track-out and carry-out onto paved roads beyond a project site.
- Regulation IV: Prohibitions; Rule 67.0: Architectural Coatings. Requires manufacturers, distributors, and end users of architectural and industrial maintenance coatings to reduce VOC emissions from the use of these coatings, primarily by placing limits on the VOC content of various coating categories.
- Regulation XII: Prohibitions, Rule 1200: Toxic Air Contaminants. Requires stationary sources to be equipped with applicable toxic best available control technology (BACT) if the maximum incremental cancer risk is found to be greater than one in one million. With implementation of applicable BACT's, SDAPCD allows an incremental cancer risk less than ten in one million. According to SDAPCD's *New Source review Requirements for Best Available Control Technology (BACT) Guidance Document* (SDAPCD 2011), the following applicable BACTs would apply to the project in respect to off-road construction equipment:
  - California use clean diesel fuel and turbocharger, low-temperature aftercooler, and retardation of fuel injection timing 4 degrees from manufacturer's specification, USEPA or CARB certified engine and PCV filter.

The RAQS contains six transportation control measures that are consistent with program commitments made in the 2007 Regional Transportation Plan (RTP) and the 2006 Regional Transportation Improvement Program (RTIP) adopted and implemented by SANDAG. The six RAQS transportation control measures relate to: (1) transit improvements; (2) vanpools; (3) high-occupancy vehicle (HOV) lanes; (4) park-and-ride facilities; (5) bicycle facilities; and (6) traffic signal improvements. SDAPCD's Indirect Source Program, adopted by the District Board in December 1997, consists of ongoing outreach and assistance to local governments, land developers, and neighborhood groups to reduce vehicle trips and associated emissions through voluntary land use and street design improvements (i.e., "smart growth") (SDAPCD 2009).

SDAPCD provides ongoing technical assistance to SANDAG on programs to encourage smart growth. SDAPCD has also conducted public workshops and other forms of public outreach focused on improving the conditions for pedestrians, bicyclists, and transit.

### *Local*

### *City of Oceanside General Plan*

The City of Oceanside's General Plan Environmental Resource Management Element and Circulation Element include goals and policies to improve the air quality conditions within the city. The following goals and policies from the Environmental Resource Management Element

(City of Oceanside 2002) and Circulation Element (City of Oceanside 2012) are relevant to the proposed project:

#### Environmental Resource Management Element

**Goal:** Evaluate the state of the environment and formulate a program of planned management, wise utilization, and preservation of our natural resources to ensure the healthy, safety, and welfare of present and future generations.

Air Quality

1. Cooperate with County, State, and federal agencies in continuing programs of air quality improvement.

2. The City will continue to cooperate with the San Diego County Air Pollution Control Board. This will include the participation in the development of the Regional Air Quality Strategy (RAQS) through cooperation with the San Diego County Air Quality Planning Team.

Circulation Element

*Bicycle Facilities*

**Goal 2:** Make bicycling a viable mode choice in an effort to reduce congestion, improve air quality, and provide residents and visitors with public health and recreational benefits.

*Intelligent Transportation System Technologies*

**Objective ii:** Improve air quality and reduce greenhouse gas emissions through traffic signal optimization and the use of advance signal control technologies.

## 3.2.3 Impacts and Mitigation Measures

### Significance Criteria

Based on Appendix G of the CEQA Guidelines, the project would result in a significant impact on air quality if it would:

1. Conflict with or obstruct implementation of the applicable air quality plan.
2. Violate any air quality standard or contribute substantially to an existing or projected air quality violation.
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).
4. Expose sensitive receptors to substantial pollutant concentrations.
5. Create objectionable odors affecting a substantial number of people.

### *Criteria Pollutants*

As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the above determinations. As part of its air quality permitting process, the SDAPCD has established thresholds in Rule 20.2 requiring the preparation of air quality impact assessments (AQIA) for permitted stationary sources. The SDAPCD sets forth quantitative emission thresholds below which a source would not have a significant impact on ambient air quality. It does not provide $PM_{10}$ and $PM_{2.5}$ thresholds. Because SDAPCD does not provide $PM_{10}$ or $PM_{2.5}$ thresholds, this analysis also considers the San Diego County guidelines, which provide screening thresholds for these pollutants (County of San Diego 2007). Project-related air quality impacts estimated in this environmental analysis would be considered significant if any of the applicable significance thresholds presented in **Table 3.2-4** would be exceeded.

**TABLE 3.2-4**
**SCREENING LEVEL THRESHOLDS**

| Pollutant | Mass Daily Thresholds (lbs/day) | Mass Annual Thresholds (tons/year) |
|---|---|---|
| Oxides of Nitrogen ($NO_X$) | 250 | 40 |
| Reactive Organic Gases (ROG) | 75 | 12.5 |
| Respirable Particulate Matter ($PM_{10}$) | 100 | 15 |
| Fine Particulate Matter ($PM_{2.5}$) | 55 | 10 |
| Oxides of Sulfur ($SO_X$) | 250 | 40 |
| Carbon Monoxide (CO) | 550 | 100 |

SOURCE: SDAPCD 1998; County of San Diego 2007.

### *Carbon Monoxide Hotspots*

Areas where CO concentrations exceed the NAAQS and/or CAAQS have been found to occur where signalized intersections operate at or below a level of service (LOS) E (i.e., congested intersections) with peak-hour trips exceeding 3,000 trips. Therefore, as a screening level analysis, a project that would cause an intersection to be degraded to below LOS D and would have peak-hour trips greater than 3,000 trips could have a potentially significant impact. If the screening level analysis determines a potentially significant impact, more detailed technical analyses are typically required, specifically local CO dispersion modeling.

### *Toxic Air Contaminants Health Risks*

According to the County Guidelines and SDAPCD's Regulation XII: Prohibitions, Rule 1200: Air Contaminants, an incremental cancer risk greater than one in one million without implementation of BACTs, or greater than ten in one million with the application of BACTs, is a significant impact (SDAPCD 2015). In addition, a health hazard index greater than 1 would be deemed as having a potentially significant impact.

## Impact Analysis

**Issue 1: Would the proposed project conflict with or obstruct implementation of the applicable air quality plan?**

The SDAPCD RAQS is the regional air quality plan that is applicable to the project area. The RAQS contains rules and regulations that are implemented by the SDAPCD to help the SDAB meet the clean air standards required by federal and state law. The RAQS relies on projected growth in the County, as well as information on mobile, area, and other sources of emissions obtained from CARB and SANDAG to project future emissions within the County. Based on these emissions, reduction strategies are determined to reduce emissions in order to achieve or maintain attainment with state and federal standards. CARB mobile source emissions projections and SANDAG growth projections are generally based on the applicable General Plans (of the incorporated cities within the County and the County itself for unincorporated areas). Therefore, projects that propose development consistent with the applicable General Plan would be consistent with the RAQS and the SIP. If the project's growth exceeds the projections anticipated in the applicable General Plan, then it would conflict with the RAQS and the SIP.

The Complete Streets improvements are a permitted use under the County's General Plan. Additionally, implementation of the Complete Streets improvements is not expected to result in population growth. Therefore, this component of project would be consistent with the growth projections accounted for in SDAPCD's RAQS, and it would not conflict with or obstruct implementation of the RAQS. Impacts would be less than significant.

Construction emissions associated with the individual development projects that would occur under the Incentive District would be required to comply with CARB emission standards for off-road diesel construction equipment, which would minimize exhaust emissions of $PM_{10}$, $PM_{2.5}$, and $NO_X$. The new development anticipated under the Incentive District would be consistent with the growth and development potential under the City's existing General Plan land use regulations and could occur under current conditions, and thus would be consistent with the SDAPCD's RAQS. However, it is expected that with implementation of the Incentive District development might be encouraged such that growth and/or new land uses could occur more quickly than under current conditions.

For these reasons, neither the Complete Streets improvements nor the development projects anticipated under the Incentive District would conflict with, or obstruct, implementation of the RAQS and impacts would be less than significant.

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

**Significance after Mitigation**: Less than significant

**Issue 2: Would the proposed project violate any air quality standard or contribute substantially to an existing or projected air quality violation?**

### *Complete Streets Improvements*

The Complete Streets improvements would involve the conversion of the Coast Highway corridor from four lanes to two lanes, and phased construction of 12 new roundabout intersections, all of which are currently signalized, with the exception of the intersections with Washington Avenue, West Street, and Kelly Street, which currently are stop-sign controlled (IBI 2018). Construction activities associated with the project would generate pollutant emissions from the following construction activities: demolition, site preparation, grading, and utility trenching; construction workers traveling to and from project area; delivery and hauling of construction supplies to, and debris from, the project area; fuel combustion by on-site construction equipment; facilities construction; and paving. These construction activities would temporarily create emissions of dust, fumes, equipment exhaust, and other air contaminants. The amount of emissions generated on a daily basis would vary depending on the intensity and types of construction activities occurring simultaneously.

For the analysis of construction-period impacts for the Complete Streets improvement, the City of Oceanside estimated an inventory of the equipment that would be used during the peak day for each of the construction phases (e.g., demolition, site preparation, etc.). Using this data, the peak daily emissions of criteria air pollutants and $O_3$ precursors associated with the Complete Streets roadway improvements worst-case construction scenario was modeled. The results of this analysis are provided in **Table 3.2-5**.

As shown in Table 3.2-5, the maximum daily construction emissions generated by the Complete Streets improvements worst-case construction scenario would not exceed SDAPCD's daily thresholds for any criteria pollutants during any of the construction phases. Because construction activities would likely be lower than the maximum daily levels shown on most days, and would be intermittent throughout the year, the annual construction emissions generated by the Complete Streets improvements worst-case construction scenario would also not exceed SDAPCD's annual thresholds. Therefore, the construction phase emissions of associated with the Complete Streets improvements project component would be less than significant.

Operation of the Complete Streets improvements is not expected to result directly in an increase in emissions. According to the traffic impact analysis (TIA) prepared for the project (IBI 2018), the Complete Streets improvements are not expected to result in any net increases in vehicle trips when compared to existing baseline conditions. Therefore, operation of the Complete Streets improvements would result in no impacts.

**TABLE 3.2-5**
**COMPLETE STREETS IMPROVEMENTS CONSTRUCTION EMISSIONS**

| | Estimated Maximum Daily Emissions (lbs/day) | | | | | |
|---|---|---|---|---|---|---|
| **Construction Activities** | **ROG** | **$NO_X$** | **CO** | **$SO_X$** | **$PM_{10}$** | **$PM_{2.5}$** |
| Demolition | 6 | 51 | 42 | <1 | 3 | 3 |
| Site Prep (Vegetation Grubbing/Clearing) | 3 | 39 | 23 | <1 | 2 | 1 |
| Site Grading | 3 | 33 | 22 | <1 | 2 | 1 |
| Utility Trenching | 2 | 17 | 13 | <1 | 1 | 1 |
| Facilities Construction | 4 | 40 | 29 | <1 | 3 | 2 |
| Facilities Construction and Paving [a] | 9 | 83 | 62 | <1 | 5 | 4 |
| Maximum Daily Emissions | 9 | 83 | 62 | <1 | 5 | 4 |
| SDAPCD Thresholds | 75 | 250 | 550 | 250 | 100 | 55 |
| Significant Impact? | No | No | No | No | No | No |

[a] Includes the sum of daily emissions from the construction phases Building Construction, Paving, and Architectural Coating, because these phases have the potential to overlap on the same day during the overall construction period. Consequently, the sum of these daily emissions represents the maximum daily emissions during the construction period; therefore, it is used as comparison to the SDAPCD screening-level thresholds.

SOURCE: ESA CalEEMod Modeling, August 2016; SDAPCD 1998; County of San Diego 2007.

## *Incentive District*

### Construction of Projects Implemented under the Incentive District

Future project-specific construction activities that would occur as a result of the Incentive District would cause temporary, short-term emissions of nonattainment air pollutants in the SDAB—specifically, $O_3$ precursors (i.e., VOCs and $NO_X$), and $PM_{10}$ and $PM_{2.5}$—as a result of construction activities, including: (1) grading, excavation, road building, and other earth moving activities; (2) travel by construction equipment and employee vehicles, especially on unpaved surfaces; (3) exhaust from construction equipment, trucks, and worker vehicles; (4) architectural coatings; and (5) asphalt paving. Information regarding the size, duration, and construction requirements of specific development projects would be required in order to quantify impacts associated with the construction activities of these individual projects. However, what is known at this time is that the construction of potential future projects under the Incentive District would be required to comply with applicable State and SDAPCD air quality regulations, including CARB's on-road and off-road vehicle rules on idling limits; $NO_X$, $PM_{10}$, and $PM_{2.5}$ exhaust standards; and SDAPCD Rules 55 and 51 (Fugitive Dust and Nuisance) that limit fugitive dust emissions. Additionally, the maximum residential density in the Incentive District would allow for 63 dwelling units per acre. Retail and commercial uses would also be allowed within the Incentive District.

Individual development projects could exceed the SDAPCD thresholds specified for daily emissions of criteria air pollutants (see Table 3.2-4). Thus, even with compliance with these rules and regulations, future construction activities associated with the land uses permitted by the

Incentive District would have the potential to contribute substantially to an existing or projected air quality violation. Therefore, this impact would be potentially significant.

### Operation of Projects Developed under the Incentive District

In addition to construction-period effects, potential development projects under the Incentive District would result in mobile source emissions generated by vehicle trips from future development and population growth. Information regarding specific development projects, trip generation, and locations of sensitive receptors in relation to potential future projects would be needed in order to quantify the level of impact associated with operational activities. As this level of detail is not available at this time, it would be speculative to estimate such emissions, and a detailed analysis is not possible.

Future development projects that could occur as a result of adoption of the Incentive District would generate long-term operational emissions of nonattainment air pollutants in the SDAB, including $O_3$ precursors (i.e., VOCs and $NO_X$), $PM_{10}$, and $PM_{2.5}$, as a result of normal day-to-day activities. Future development that could result through adoption of the Incentive District could result in an increase in overall area density. However, the new buildings would be built to meet or exceed Title 24 standards. According to the California Energy Commission (CEC), the Title 24 (2016) standards, which are effective January 1, 2017, result in approximately 28 percent less energy consumption for residential and 5 percent less energy consumption for nonresidential lighting, heating, cooling, ventilation, and water heating compared to the previous Title 24 (2013) standards. It is expected that future updates to the Title 24 standards would result in increased energy efficiency. The next iteration of the Title 24 standards are anticipated in 2019; however, estimated energy consumption reduction from these future standards are not yet known or available.

The California Public Utilities Commission (CPUC) has also designed the Zero Net Energy (ZNE) Action Plan to make new residential and commercial construction in California zero net energy by 2030 in order to meet the state's greenhouse gas goals. The ZNE Action Plan's key milestones are achieved by improving and expanding Title 24 standards, providing incentives, mandating carbon benchmarking and labeling, and developing performance data.

It is not possible to accurately predict the increased level of energy efficiency associated with future updates to the Title 24 standards. Furthermore, Title 24 only regulates a portion of a building's energy use primarily related to lighting, heating, cooling, ventilation, and water heating; therefore, is it not possible to estimate how future Title 24 standards would affect the overall energy profile of a building. It is reasonable to expect that future buildings built as a result of adoption of the Incentive District would replace less-energy-efficient buildings and result in improved energy efficiency on a per-dwelling-unit or per-square-foot basis. Nonetheless, buildout of future development projects that could occur as a result of adoption of the Incentive District could result in increased overall density, which may result in an overall increase in building energy emissions. Similarly, with increased density, population may increase as a result of adoption of the Incentive District and result in increased overall evaporative emissions (i.e., VOCs) from consumer products and architectural coatings.

The TIA (2018) for the project evaluates daily per capita vehicles miles traveled (VMT) for 2008 base-year conditions and for 2035 both with and without project implementation. Future year 2035 with project conditions would be approximately 6.33 VMT per capita, compared to the 2008 model base year of 6.56 VMT per capita (IBI 2018). Future year 2035 conditions without the project would be approximately 7.02 VMT per capita (IBI 2018). Thus, project implementation would reduce VMT per capita compared to the 2008 model base year and future no project conditions by approximately 4 percent and 10 percent, respectively. Therefore, the project would result in increased transportation efficiency on a per-capita basis relative to the 2008 model base year and future year 2035 no project conditions, and would reduce per capita mobile source emissions. This reduction in per-capita VMT is supportive of per-capita VMT reduction efforts in the SANDAG 2050 RTP and SCS.

Per-capita emissions of mobile source exhaust pollutants (from vehicles), in particular VOC, $NO_X$, and CO, are expected to decline in future years relative to existing conditions due to improved vehicle emission standards and fuel economy standards that have been adopted by the USEPA and State of California (i.e., emissions standards through vehicle model year 2025). Under current USEPA standards, by vehicle model year 2025, passenger cars and light-duty trucks are required to achieve 54.5 miles per gallon (if emissions reductions are achieved exclusively through fuel economy improvements) and 163 grams of $CO_2$ emissions per mile. According to the USEPA, a model-year 2025 vehicle would emit approximately one-half of the GHG emissions from a model-year 2010 vehicle (USEPA 2012). Nonetheless, future development that could occur as a result of adoption of the Incentive District could result in an increase in the total amount of VMT due to increased overall density, which may result in an overall increase in mobile source emissions despite the improved transportation efficiency and per-capita emissions reductions expected from increasingly stringent vehicle emissions standards. For these reasons, the operation of projects developed under the Incentive District would result in a potentially significant impact.

**Mitigation Measures:**

**MM Incentive District AIR-1a:** Prior to the issuance of a grading or building permit, whichever is required to be obtained first, individual development projects proposed under the Incentive District shall comply with the following land preparation, excavation, and/or demolition mitigation measures during construction activities:

- All soil excavated or graded should be sufficiently watered to prevent excessive dust. Watering should occur with complete coverage of disturbed soil areas. Watering should be a minimum of twice daily on unpaved/untreated roads and on disturbed soil areas with active operations.
- All clearing, grading, earth moving and excavation activities should cease: (a) during periods of winds greater than 20 mph (averaged over 1 hour as measured by an on-site anemometer or an off-site anemometer that is representative of the construction area), if disturbed material is easily windblown, or (b) when visible dust plumes impact public roads, occupied structures, or neighboring property.

- Vehicles traveling over unpaved roadways shall be limited to 15 miles per hour or less. Signs shall be posted at construction sites identifying the maximum speed limit.
- All trucks hauling dirt, sand, soil, or other loose material shall be covered or maintain at least 2 feet of freeboard, in accordance with the requirements of California Vehicle Code (CVC) Section 23114.
- If more than 5,000 cubic yards of fill material will be imported or exported from the site, all haul truck access points shall be equipped with a gravel pad, rumble pad, or similar control to reduce vehicle trackout.
- Adjacent streets with visible dust, dirt, sand, or soil material accumulation shall be cleaned and the accumulated material removed using street sweepers.
- Stockpiles of soil or other fine loose material shall be stabilized by watering, covered with tarp, or other appropriate method to prevent wind-blown fugitive dust.
- Where acceptable to the local fire department, weed control should be accomplished by mowing instead of digging, thereby, leaving the ground undisturbed and with a mulch covering.
- Locate construction staging areas away from sensitive receptor areas, such as schools, to the extent practicable.
- Minimize the free drop height of excavated soil during batch-drop operations (i.e., earthwork with front-end loader or backhoe) so that the generation of dust is limited to the immediate area around the truck bed or storage pile.
- Install project landscaping in appropriate areas as soon as construction in an area is complete to minimize exposed soils.

**MM Incentive District AIR-1b:** Prior to the issuance of a grading or building permit, whichever is required to be obtained first, individual proposed projects shall comply with the following construction equipment mitigation measures:

- Construction equipment, on-road trucks, and emission control devices shall be properly maintained and tuned in accordance with manufacturer specifications.
- Construction contractors shall be required to comply with California's on-road and off-road vehicle emissions regulations, including the CARB idling restrictions and the USEPA/CARB on-road and off-road diesel vehicle emissions standards, as required by 13 CCR, Sections 2485, 2025(h), and 2449.
- Off-road diesel-powered construction equipment greater than 50 hp (e.g., excavators, graders, dozers, scrappers, tractors, loaders, etc.) shall be outfitted with Best Available Control Technology (BACT) devices certified by CARB such as certified Level 3 Diesel Particulate Filter or equivalent. A copy of each unit's certified BACT documentation and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

- Route construction trucks away from sensitive receptor areas.
- Where available, use electricity from power poles rather than temporary diesel or gasoline powered generators.

**MM Incentive District AIR-1c:** Construction contractors shall ensure that interior architectural coatings have a maximum of 10 grams per liter of VOC for both residential and commercial development.

**MM Incentive District AIR-2:** Prior to the issuance of a building permit, individual development projects proposed under the Incentive District regulations shall comply with the following mitigation measures:

a. Provide direct pedestrian and bicycle access from any Incentive District residential development with a density of four or more residences per acre and in any mixed-use or commercial development to the public right-of-way. Low-, medium-, and high-density Incentive District developments shall provide curbs and sidewalks all public street frontages. Curbs and sidewalks shall also be provided on both sides of all internal streets, unless an equivalent or superior pedestrian path is provided within the development.

b. For medium- to high-density residential, mixed-use, or commercial developments in the Incentive District area where transit services exist but no transit stop is located within 0.5 mile of the development site, or where transit service does not exist and the development project is within a transit district's sphere of influence, development projects shall provide plans indicating locations of bus turnouts and loading areas with shelters that are acceptable to the local transit provider.

c. Promote the expanded use of renewable fuel and low-emission vehicles by including one or both of the following project components: preferential parking for ultra-low emission, zero-emission, and alternative-fuel vehicles; and/or electric vehicle supply equipment within the development that meets or exceeds the Tier 1 standards in the current 2016 Title 24 and 2016 California Green Building Standards. Nothing in this measure shall supersede an individual development project's legal responsibility to meet the applicable mandatory minimum requirements of the version of the Title 24 and California Green Building Standards in effect at the time of building permit issuance.

d. Development projects shall be required to reduce energy consumption by designing buildings that meet or exceed the Tier 1 building energy budget standards in the current 2016 Title 24 and 2016 California Green Building Standards. Nothing in this measure shall supersede an individual development project's legal responsibility to meet the applicable mandatory minimum requirements of the version of the Title 24 and California Green Building Standards in effect at the time of building permit issuance.

e. Development projects shall be required to reduce water consumption by installing water-efficient fixtures, appliances, toilets/urinals, and landscape irrigation systems that meet or exceed the Tier 1 standards in the current 2016 Title 24 and 2016 California Green Building Standards. Nothing in this measure shall supersede an individual development

project's legal responsibility to meet the applicable mandatory minimum requirements of the version of the Title 24 and California Green Building Standards in effect at the time of building permit issuance.

f. Development projects shall promote transportation demand management principles such as peak hour trip reduction, staggered work hours, ride sharing, telecommuting, and the use of public transportation or other measures, as appropriate.

**Significance after Mitigation**: Assuming implementation of **MM Incentive District AIR-1a through AIR-1c**, a maximum of 63 dwelling units per acre, and up to 30,000 square feet of retail development per acre, the following development could occur simultaneously and result in less-than-significant impacts (i.e., emissions below the daily emissions thresholds)[2]:

- Up to six 1-acre lots
- Up to three 2-acre lots
- Up to one 5-acre and four 1-acre lots
- Up to one 5-acre lot and two 2-acre lots
- Up to two 5-acre lots

However, development exceeding these levels would likely result in emissions above the daily thresholds resulting in short-term emissions of nonattainment air pollutants which would result in a significant contribution to existing or projects air quality violations. While **MM Incentive District AIR-1a through AIR-1c** represent feasible measures to reduce potential impacts associated with construction, impacts would not be reduced to a less-than-significant level. Additional feasible measures cannot be developed without knowing the exact timing or location of the construction projects. Because there is no way to accurately predict the intensity of development projects under the Incentive District or their implementation timing, this impact is considered significant and unavoidable.

**Issue 3: Would the proposed 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)?**

The proposed project is located within the SDAB, which is considered the cumulative study area for air quality. Because the SDAB is currently classified as a state nonattainment area for $O_3$, $PM_{10}$, and $PM_{2.5}$, cumulative development consisting of the project along with other reasonably foreseeable future projects in the SDAB as a whole could violate an air quality standard or contribute to an existing or projected air quality violation. However, based on the county's guidelines regarding cumulative air quality impact methodology, the county recommends that if an individual project results in air emissions of criteria pollutants (ROG, CO, NOx, SOx, $PM_{10}$, and $PM_{2.5}$) that exceed the screening level thresholds for project-specific impacts, it would also

[2] Since the average lot size is between 1 and 2 acres, the analysis focused on 1 and 2 acres with a maximum of 5 acres as an outside development size.

result in a cumulatively considerable net increase of these criteria pollutants for which the project region (SDAB) is in nonattainment under an applicable federal or state ambient air quality standard.

### *Complete Streets Improvements*

As shown in Table 3.2-5, the construction emissions associated with the Complete Streets improvements would not exceed SDAPCD's screening level thresholds. Operation of the Complete Streets improvements is not expected to result directly in an increase in emissions. Thus, because the project's construction-period and operational impacts would be less than significant, the project would not result in a significant cumulative impact when considered with other past, present, and reasonably foreseeable projects. Furthermore, the Complete Streets improvements would also be consistent with SDAPCD's RAQS. The project would not conflict with SDAPCD's air quality planning efforts for nonattainment pollutants and would not lead to a cumulatively considerable net increase in nonattainment pollutants during operations. Therefore, impacts would be less than significant on a cumulative basis.

### *Incentive District*

Implementation of the Incentive District would generate pollutant emissions from construction and operation of potential future development under the Incentive District. Future development that could occur as a result of adoption of the Incentive District could result in an increase in density or in the total amount of VMT relative to existing conditions, which may result in an overall increase in building and mobile source emissions, despite the improved energy and transportation efficiency and emissions reductions expected from buildings and mobile sources meeting increasingly stringent energy efficiency and vehicle emissions standards.

**Mitigation Measures:**

**MM Incentive District AIR-1a–c** and **MM Incentive District AIR-2** shall be required.

**Significance after Mitigation**: **MM Incentive District AIR-1a–c** and **MM Incentive District AIR-2** would reduce construction and operational emissions from future development that could occur as a result of adoption of the Incentive District. However, detailed information regarding individual development projects within the Incentive District is not currently available. Thus, it cannot be determined with certainty that the above measures would reduce impacts to a less-than-significant level. Additional feasible measures beyond the mitigation identified above cannot be developed without knowing the exact nature of the proposed developments, including but not limited to the types and sizes of the proposed uses and associated trip generation rates. Development under the Incentive District would potentially result in a cumulatively considerable net increase of a criteria pollutant for which the project region is nonattainment. Therefore, impacts would be significant and unavoidable.

**Issue 4: Would the proposed project expose sensitive receptors to substantial pollutant concentrations?**

The two primary emissions of concern regarding health effects for land development projects are diesel PM and CO. Separate discussions are provided below analyzing the potential for sensitive receptors to be exposed to CO hotspots and TACs from on-site sources during project construction and operations.

### Carbon Monoxide Hotspots

A project would expose sensitive receptors to substantial pollutant concentrations if it places sensitive receptors near CO hotspots or creates CO hotspots near sensitive receptors. The project would result in a significant impact if the intersection improvements and realignment of trips associated with the Complete Streets improvements result in CO emissions that, when added to ambient concentrations, would exceed a 1-hour concentration of 20 parts per million (ppm) or an 8-hour average of 9 ppm. For purposes of this analysis, the project is compared to a screening level for the intersection improvements associated with the Complete Streets improvements. If the intersection improvements do not exceed the screening levels, then they would be assumed to not exceed the 1- or 8-hour standards. However, if the intersection improvements degrade the LOS below D (change from LOS D to E or E to F) with peak hourly traffic flows of greater than 3,000 vehicles, impacts would be potentially significant.

The existing plus project peak-hour conditions were evaluated against the screening level thresholds. Study area intersections that project implementation would degrade to below LOS D during the PM peak hour are shown in **Table 3.2-6**.

**TABLE 3.2-6**
**TRAFFIC INTERSECTIONS LEVEL OF SERVICE – EXISTING + PROJECT**

| Intersection (Numbering per IBI 2018) | Peak Hour | Existing LOS | Existing + Project LOS | Peak Hourly Flow |
|---|---|---|---|---|
| 27. Coast Highway - Oceanside Boulevard | AM | C | A | **1,191** |
| | PM | D | F | **2,551** |
| 35. Coast Highway – Cassidy Street | AM | A | A | **926** |
| | PM | B | F | **1,991** |

SOURCE: IBI 2018.

As shown in Table 3.2-6, at intersections for which the LOS changes from D or better to F during the PM peak-hour would have a peak hourly flow of 2,551 vehicles, which is below the screening level of 3,000 vehicles. Thus, the Complete Streets improvements would not expose sensitive receptors to substantial concentrations of CO. Therefore, the impact is less than significant.

In addition to the different roadway configurations, the traffic analysis conducted for the project accounts for different land use conditions in the Future 2035 with Project scenario. This scenario accounts for the Complete Streets improvements and the development and/or redevelopment that may occur under the Incentive District. As shown in **Table 3.2-7**, the intersections with LOS changes to E or F during the peak AM or PM hours would not result in peak hourly flow

exceeding 3,000 vehicles during the peak hour. Thus, the Complete Streets improvements and the development and/or redevelopment that may occur under the Incentive District would not expose sensitive receptors to substantial concentrations of CO. Therefore, the impact is less than significant.

**TABLE 3.2-7**
**TRAFFIC INTERSECTIONS LEVEL OF SERVICE – FUTURE (2035) + PROJECT**

| Intersection (Numbering per IBI 2018) | Peak Hour | Future Conditions without Project LOS | Future Conditions + Project LOS | Peak Hourly Flow |
|---|---|---|---|---|
| 4. Coast Highway & Surfrider Way | AM<br>PM | B<br>B | A<br>F | 1,208<br>2,354 |
| 6. Coast Highway & Pier View Way | AM<br>PM | B<br>A | A<br>E | 796<br>2,049 |
| 15. Seagaze Street & Ditmar Street | AM<br>PM | A<br>D | A<br>E | 503<br>1,358 |
| 21. Coast Highway & Wisconsin Avenue | AM<br>PM | B<br>C | A<br>F | 1,070<br>2,136 |
| 26. Oceanside Boulevard & Tremont Street | AM<br>PM | B<br>F | B<br>E | 573<br>1,035 |
| 27. Coast Highway & Oceanside Boulevard | AM<br>PM | C<br>C | B<br>F | 1,313<br>2,762 |
| 29. Coast Highway & Morse Street | AM<br>PM | B<br>C | B<br>F | 1,272<br>2,447 |
| 35. Coast Highway & Cassidy Street | AM<br>PM | B<br>C | A<br>F | 1,187<br>2,539 |
| 42. Vista Way & Ditmar Street | AM<br>PM | D<br>F | D<br>F | 1,624<br>2,873 |

SOURCE: IBI 2018.

## *Complete Streets Improvements*

### Toxic Air Contaminants

Construction of the Complete Streets improvements would result in short-term emissions of diesel PM, which is a TAC. Diesel PM poses a carcinogenic health risk that is measured using an exposure period of 70 years. The exhaust of off-road heavy-duty diesel equipment would emit diesel PM during demolition, site preparation (e.g., clearing), site grading and excavation, paving, installation of utilities, materials transport and handling, facility construction, and other miscellaneous activities. SDAPCD has not adopted a methodology for analyzing such impacts and has not recommended that health risk assessments (HRA) be completed for construction-related emissions of TACs.

According to the Office of Environmental Health Hazard Assessment, carcinogenic health risk assessments, which determine the exposure of sensitive receptors to TAC emissions, should be based on a 30-year residential exposure period; however, such assessments should be limited to

the period or duration of activities associated with the project. The construction period for the Complete Streets project component would be much less than the 30-year period used for risk determination. Because off-road heavy-duty diesel equipment would be used only for short periods, project construction would not expose sensitive receptors to substantial emissions of TACs. Therefore, this impact would be less than significant.

### *Incentive District*

#### Toxic Air Contaminants

Construction-related activities occurring under the Incentive District could result in the emission of TACs, affecting nearby sensitive receptors. The primary TACs that could be emitted during construction would be diesel PM from construction equipment exhaust. Diesel PM is emitted by heavy equipment operations during grading, excavation, and transportation activities. Health risks from carcinogenic TACs are usually described in terms of cancer risk. Cancer risk is the likelihood that a person exposed to concentrations of TACs over 30 years or more would contract cancer, based on the use of standard risk-assessment methodology. Diesel PM also represents a chronic health hazard from exposures of a year or more.

The construction period for the potential development and redevelopment of an individual project as result of adoption of the Incentive District would be much less than the 30-year period used for risk determination for residential exposures. Because off-road heavy-duty diesel equipment would be used only for short time periods of generally 1 to 2 years for typical development projects, project-level construction during future development projects would typically not expose sensitive receptors to substantial emissions of TACs that exceed the established significance thresholds. However, given the potential amount of development associated with implementation of the Incentive District it is reasonable to assume that on a programmatic level some large-scale construction activities that generate TAC emissions exceeding the established significance thresholds could occur near sensitive receptors, thereby potentially resulting in significant impacts.

In addition, potential development and redevelopment under the Incentive District would generally result in an increase in density in the project corridor, and it is possible that sensitive uses could be located near sources of TAC emissions within the distances specified in the CARB advisory recommendations (see **Table 3.2-8**). For these reasons, impacts related to operational TAC emissions would be considered potentially significant when considering the various development projects that could be constructed under the Incentive District.

**TABLE 3.2-8**
**CARB RECOMMENDATIONS ON SITING NEW SENSITIVE LAND USES**

| Source Category | Advisory Recommendations |
|---|---|
| Freeways and High-Traffic Roads | • Avoid siting new sensitive land uses within 500 feet of a freeway, urban roads with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day. |
| Distribution Centers | • Avoid siting new sensitive land uses within 1,000 feet of a distribution center (that accommodates more than 100 trucks per day, more than 40 trucks with operating transport refrigeration units (TRUs) per day, or where TRU unit operations exceed 300 hours per week). |

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|---|---|
| | • Take into account the configuration of existing distribution centers and avoid locating residences and other new sensitive land uses near entry and exit points |
| Dry Cleaners using Perchloroethylene | • Avoid siting new sensitive land uses within 300 feet of any dry cleaning operation. For operations with two or more machines, provide 500 feet. For operations with 3 or more machines, consult with the local air district.<br>• Do not site new sensitive land uses in the same building with perchloroethylene dry cleaning operations. |
| Gasoline Dispensing Facilities | • Avoid siting new sensitive land uses within 300 feet of a large gas station (defined as a facility with a throughput of 3.6 million gallons per year or greater).<br>• A 50-foot separation is recommended for typical gas dispensing facilities. |

SOURCE: California Air Resources Board, Air Quality and Land Use Handbook: A Community Health Perspective (2005).

**Mitigation Measures:**

**MM Incentive District AIR-3:** Prior to the issuance of a grading or building permit, whichever is required first, individual development projects proposed under the Incentive District shall comply with the following requirements:

a. Projects locating sources of TAC emissions near sensitive receptors within the advisory guideline recommendations in the CARB *Air Quality and Land Use Handbook* (or future adopted subsequent document) shall conduct a health risk assessment to sufficiently demonstrate that impacts would not exceed the adopted significance thresholds inclusive of project-level design features, as appropriate and feasible. The types of projects that would be required to comply with this measure and more detail on the required features and recommendations are provided in Table 9 (CARB Recommendations on Siting and New Sensitive Land Uses).

b. Projects requiring the use of diesel-fueled heavy-duty construction equipment that generates on-site emissions of 1 pound or more per day of diesel particulate matter for a period of 6 months or more within 500 feet of sensitive receptors shall conduct a health risk assessment to sufficiently demonstrate that impacts would not exceed the adopted significance thresholds inclusive of project-level design features, as appropriate and feasible.

**Significance after Mitigation**: Less than significant with mitigation

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**Issue 5: Would the proposed project create objectionable odors affecting a substantial number of people?**

Land uses that are associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. Neither the Complete Streets improvements nor the Incentive District would include such land uses.

During construction, exhaust from equipment and activities associated with the application of pavement, finishes, or paints may produce discernible odors typical of most construction sites. Such odors would be temporary sources of nuisance to adjacent uses, and would not affect a substantial number of people. Furthermore, odors associated with construction would be temporary and intermittent in nature.

For these reasons, the proposed project would not result in objectionable odors for the neighboring uses and impacts would be less than significant.

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

**Significance Determination:** Less than significant