5.2 Air Quality

This section describes the applicable laws and policies related to air quality, discusses the environmental setting relative to air quality, and addresses the air emissions generated by construction and operation of the proposed Project and the potential impacts to air quality. The analysis also addresses the Project's consistency with the air quality policies set forth within the South Coast Air Quality Management District's (SCAQMD) *2016 Air Quality Management Plan*. The analysis of Project-generated air emissions focuses on whether the Project would cause an exceedance of an ambient air quality standard or SCAQMD significance threshold. Air quality technical data is included as **Appendix 3, Air Quality/Greenhouse Gas Emissions Data**.

5.2.1 Regulatory Framework

Federal

Clean Air Act

The Federal Clean Air Act (CAA) was the first federal legislation regarding air pollution control. At the federal level, the United States Environmental Protection Agency (USEPA) is responsible for implementation of certain portions of the CAA including mobile source requirements. Other portions of the CAA, such as stationary source requirements, are implemented by state and local agencies.

Under Title I, Nonattainment Provisions, the CAA establishes federal air quality standards, known as National Ambient Air Quality Standards (NAAQS), for the following criteria pollutants: O_3, NO_2, CO, SO_2, PM10, PM2.5, and Pb. It also specifies future dates for achieving compliance with the NAAQS and mandates that states submit and implement a State Implementation Plan (SIP) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards would be met. The 1990 amendments to the CAA identify specific emission reduction goals for basins not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones (**Table 5.2-1).**

Title II of the CAA, Mobile Source Provisions, pertains to mobile sources such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have lowered substantially and the specification requirements for cleaner burning gasoline are more stringent.

TABLE 5.2-1
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

Pollutant	Averaging Time	California[1]		Federal[2]	
		Standard[3]	Attainment Status	Standards[3, 4]	Attainment Status
Ozone (O_3)	1 Hour	0.09 ppm (180 μg/m^3)	**Nonattainment**	0.12 ppm	**Extreme Nonattainment**
	8 Hours	0.070 ppm (137 μg/m^3)	**Nonattainment**	0.070 ppm (137 μg/m^3)	**Designation Pending previous years - Extreme Nonattainment**
Particulate Matter (PM_{10})	24 Hours	50 μg/m^3	**Nonattainment**	150 μg/m^3	Attainment/ Maintenance
	Annual Arithmetic Mean	20 μg/m^3	**Nonattainment**	N/A	N/A
Fine Particulate Matter ($PM_{2.5}$)	24 Hours	No Separate State Standard		35 μg/m^3	**Serious Nonattainment**
	Annual Arithmetic Mean	12 μg/m^3	**Nonattainment**	12.0 μg/m^3	**Serious Nonattainment**
Carbon Monoxide (CO)	1 Hour	20 ppm (23 mg/m^3)	Attainment	35 ppm (40 mg/m^3)	Attainment/ Maintenance
	8 Hours	9.0 ppm (10 mg/m^3)	Attainment	9 ppm (10 mg/m^3)	Attainment/ Maintenance
Nitrogen Dioxide (NO_2)[5]	1 Hour	0.18 ppm (339 μg/m^3)	Attainment	0.100 ppm (188 μg/m^3)	Unclassified/ Attainment
	Annual Arithmetic Mean	0.030 ppm (57 μg/m^3)	Attainment	0.053 ppm (100 μg/m^3)	Attainment/ Maintenance
Lead (Pb)[6, 7]	30 days 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	Partial Attainment
Sulfur Dioxide (SO_2)[8]	1 Hour	0.25 ppm (655 μg/m^3)	Attainment	0.075 ppm (196 μg/m^3)	N/A
	3 Hours	N/A	N/A	N/A	N/A
	24 Hours	0.04 ppm (105 μg/m^3)	Attainment	0.14 ppm (for certain areas)	Unclassified/ Attainment
	Annual Arithmetic Mean	N/A	N/A	0.03 ppm (for certain areas)	Unclassified/ Attainment
Visibility-Reducing Particles[9]	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/m^3	Attainment	**No Federal Standards**	
Hydrogen Sulfide	1 Hour	0.03 ppm (42 μg/m^3)	Unclassified	**No Federal Standards**	
Vinyl Chloride[6]	24 Hour	0.01 ppm (26 μg/m^3)	N/A	**No Federal Standards**	

TABLE 5.2-1
NATIONAL AND CALIFORNIA AMBIENT AIR QUALITY STANDARDS

NOTES:
1 California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.
2 National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over three years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 $\mu g/m^3$ is equal to or less than one. For $PM_{2.5}$, the 24-hour standard is attained when 98 percent of the daily concentrations, averaged over three years, are equal to or less than the standard.
3 Concentration expressed first in units in which it was promulgated. Equivalent units given in parentheses are based upon a reference temperature of 25°C and a reference pressure of 760 torr. Most measurements of air quality are to be corrected to a reference temperature of 25°C and a reference pressure of 760 torr; ppm in this table refers to ppm by volume, or micromoles of pollutant per mole of gas.
4 National Primary Standards: The levels of air quality necessary, with an adequate margin of safety, to protect the public health.
5 To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. Note that the national 1-hour standard is in units of parts per billion (ppb). California standards are in units of parts per million (ppm). To directly compare the national 1-hour standard to the California standards the units can be converted from ppb to ppm. In this case, the national standard of 100 ppb is identical to 0.100 ppm.
6 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.
7 The national standard for lead was revised on October 15, 2008 to a rolling 3-month average. The 1978 lead standard (1.5 $\mu g/m^3$ as a quarterly average) remains in effect until one year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standard are approved.
8. 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 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.
9 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 Board2016; SCAQMD 2016b.

Pursuant to the FCAA Amendments, the USEPA passed two separate federal conformity rules to ensure that air pollutant emissions associated with federally approved or funded activities do not exceed emission budgets established in the applicable State Implementation Plan (SIP) and do not otherwise interfere with the State's ability to attain and maintain the NAAQS's in areas working to attain or maintain the standards. The rules were incorporated as Section 40 CFR Parts 51 and 93 and include *Transportation Conformity*, which applies to transportation plans, programs, and projects, and *General Conformity*, which applies to all other non-transportation-related projects. The Project would be subject to the General Conformity rule because the State Revolving Fund (SRF) Program, which would finance the Project, is partially funded by the U.S. Environmental Protection Agency (EPA).

The General Conformity analysis applies to projects in a nonattainment area or an attainment area subject to a maintenance plan and is required for each criteria pollutant for which an area has been designated nonattainment or maintenance. If a project's emissions are below the "de minimis" level and are less than 10% of the area's inventory specified for each criteria pollutant in a nonattainment or maintenance area, further general conformity analysis is not required. A conformity determination must be made if emissions from project facilities are above "de minimis" thresholds established for the area. A conformity determination can still be made for water/wastewater projects if facilities are sized to meet only the needs of current population projections that are used in the approved SIP for air quality. The conformity determination must

include detailed descriptions of the proposed capacity increase calculations. If it is determined that project emissions are below "de minimis" levels and result in less than 10% of the nonattainment or maintenance area emissions inventory, a general conformity analysis is not needed.

The South Coast Air Basin, which includes the Project area, is classified as an extreme non-attainment area of the federal 8-hour NAAQS for O_3, maintenance for the 24-hour NAAQS for PM_{10}, and a non-attainment area of the NAAQS for $PM_{2.5}$. SIPs have been adopted to bring the air basin into conformance with the NAAQS over time. Because O_3 is not directly emitted to the atmosphere, the USEPA has set its General Conformity *de minimis* levels for ozone precursors rather than for ozone. For areas classified as O_3 non-attainment, the applicable *de minimis* emissions are of ROG and NOx which are required to be less than 10 tons per year in order to be exempt from conformity determination requirements. Areas classified as $PM_{2.5}$ non-attainment are exempt from conformity determination requirements if emissions of $PM_{2.5}$ would be less than 100 tons per year. Areas classified as PM_{10} maintenance are exempt from conformity determination requirements if emissions of PM_{10} would be less than 100 tons per year.

State

California Air Resources Board

California Air Resources Board (CARB), a part of the California Environmental Protection Agency (CalEPA), is responsible for the coordination and administration of both federal and state air pollution control programs within California. In this capacity, CARB conducts research, sets state ambient air quality standards (California Ambient Air Quality Standards [CAAQS]), compiles emission inventories, develops suggested control measures, and provides oversight of local programs. CARB establishes emissions standards for motor vehicles sold in California, consumer products (such as hairspray, aerosol paints, and barbecue lighter fluid), and various types of commercial equipment. It also sets fuel specifications to further reduce vehicular emissions. CARB has primary responsibility for the development of California's SIP, for which it works closely with the federal government and the local air districts. The SIP is required for the State to take over implementation of the federal CAA from the USEPA.

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 particulate matter and other toxic air contaminants (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 generally does not allow diesel-fueled commercial vehicles to idle for more than five (5) minutes at any given location with certain exemptions for equipment in which idling is a necessary function such as concrete trucks. While this measure primarily targets diesel particulate matter emissions, it has co-benefits of minimizing GHG emissions from unnecessary truck idling.

In 2008, CARB approved the Truck and Bus regulation to reduce particulate matter and nitrogen oxide emissions from existing diesel vehicles operating in California (13 CCR, Section 2025, subsection (h)). CARB has also promulgated emission standards for off-road diesel construction

equipment of greater than 25 horsepower such as bulldozers, loaders, backhoes and forklifts, as well as many other self-propelled off-road diesel vehicles. The regulation adopted by the 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. While these regulations primarily target reductions in criteria air pollutant emission, they have co-benefits of minimizing GHG emissions due to improved engine efficiencies.

California Clean Air Act

The California Clean Air Act, signed into law in 1988, requires all areas of the State to achieve and maintain the CAAQS by the earliest practical date. The CAAQS apply to the same criteria pollutants as the federal Clean Air Act but also include State-identified criteria pollutants, which include sulfates, visibility-reducing particles, hydrogen sulfide, and vinyl chloride. CARB has primary responsibility for ensuring the implementation of the California Clean Air Act, responding to the federal Clean Air Act planning requirements applicable to the state, and regulating emissions from motor vehicles and consumer products within the state. **Error! Reference source not found.** shows the CAAQS currently in effect for each of the criteria pollutants as well as the other pollutants recognized by the state. As shown in **Error! Reference source not found.**, the CAAQS include more stringent standards than the NAAQS for most of the criteria air pollutants.

Health and Safety Code Section 39607(e) requires CARB to establish and periodically review area designation criteria. Table 5.2-1 provides a summary of the attainment status of the Orange County portion of the Air Basin with respect to the state standards. The Air Basin is designated as attainment for the California standards for sulfates, hydrogen sulfide, and vinyl chloride. As shown, the Air Basin is currently in nonattainment for ozone, PM10, and PM2.5 under the CAAQS.

The Clean Air Act also specifies future dates for achieving compliance with the NAAQS and mandates that states submit and implement a State Implementation Plan (SIP) for local areas not meeting these standards. These plans must include pollution control measures that demonstrate how the standards would be met. The 1990 amendments to the Clean Air Act identify specific emission reduction goals for basins not meeting the NAAQS. These amendments require both a demonstration of reasonable further progress toward attainment and incorporation of additional sanctions for failure to attain or to meet interim milestones.

Title II of the Clean Air Act pertains to mobile sources, such as cars, trucks, buses, and planes. Reformulated gasoline, automobile pollution control devices, and vapor recovery nozzles on gas pumps are a few of the mechanisms the USEPA uses to regulate mobile air emission sources. The provisions of Title II have resulted in tailpipe emission standards for vehicles, which have strengthened in recent years to improve air quality. For example, the standards for NO_X emissions have lowered substantially and the specification requirements for cleaner burning gasoline are more stringent.

California Health and Safety Code

The California Health and Safety Code [HSC] (Section 39655) defines toxic air contaminants (TAC) as "an air pollutant which may cause or contribute to an increase in mortality or an increase in serious illness, or which may pose a present or potential hazard to human health." California Code of Regulations (CCR) Sections 93000 and 93001 Title 17 lists the substances identified as TACs in California. Most of the listed TACs are also listed as hazardous air pollutants under the FCAA.

Project construction equipment would be subject to compliance with CARB's Airborne Toxic Control Measures and Off-Road Diesel Vehicle Regulation emission reduction programs, which are focused on reducing diesel emissions.

Toxic Air Contaminant Identification and Control Act

The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807, Chapter 1047, Statutes of 1983) created the California Air Toxics Program in 1983. It established a two-step process of risk identification and risk management to address potential health effects associated with public exposure to toxic substances in the air. In the risk identification step, CARB and the Office of Environmental Health Hazard Assessment (OEHHA) determine if a substance should be formally identified, or "listed," as a TAC in California. Since program inception, a number of such substances have been identified and listed. In 1993, legislative amendments were enacted for the program to identify the 189 federal hazardous air pollutants (HAPs) as TACs.

In the risk management step, CARB reviews emission sources of an identified TAC to determine whether regulatory action is needed to reduce the risk. Based on results of that review, CARB has promulgated a number of ATCMs, both for mobile and stationary sources. In 2004, CARB adopted an ATCM to limit heavy-duty diesel motor vehicle idling in order to reduce public exposure to diesel PM and other TACs. 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 five minutes at any given time. These diesel-related measures are critical in reducing the statewide cancer risk and creating healthier communities.

CARB Air Toxics "Hot Spots" Information and Assessment Act of 1987

The California Air Toxics Program is supplemented by the Air Toxics "Hot Spots" program, which became law (AB 2588, Statutes of 1987) in 1987. In 1992, the AB 2588 program was amended by Senate Bill 1731 to require facilities that pose a significant health risk to the community to perform a risk reduction audit and reduce their emissions through implementation of a risk management plan. Under this program, which is required under the Air Toxics "Hot Spots" Information and Assessment Act (Section 44363 of the California Health and Safety Code), facilities are required to report their air toxics emissions, assess health risks, and notify nearby residents and workers of significant risks when present. In March 2015, the OEHHA adopted "The Air Toxics Hot Spots Program Guidance Manual for Preparation of Health Risk Assessments" in accordance with the Health and Safety Code, Section 44300. The Final Guidance Manual incorporates the scientific basis from three earlier developed Technical Support

Documents to assess risk from exposure to facility emissions. The 2015 OEHHA Final Guidance has key changes including greater age sensitivity in particular for children, decreased exposure durations, and higher breathing rate profiles. Because cancer risk could be up to three times greater using this new guidance, it may result in greater mitigation requirements, more agency backlog, and increased difficulty in getting air permits. Regardless of the change in calculation methodology, actual emissions and cancer risk within South Coast Air Basin has declined by more than 50 percent since 2005.

California's Diesel Risk Reduction Program

CARB identified particulate emissions from diesel-fueled engines as TACs in August 1998. Following the identification process, CARB was required by law to determine if there is a need for further control, which led to the risk management phase of the program.

For the risk management phase, CARB formed the Diesel Advisory Committee to assist in the development of a risk management guidance document and a risk reduction plan. With the assistance of the Diesel Advisory Committee and its subcommittees, CARB developed the Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles and the Risk Management Guidance for the Permitting of New Stationary Diesel-Fueled Engines. The Diesel Advisory Committee approved these documents on September 28, 2000, paving the way for the next step in the regulatory process: the control measure phase.

During the control measure phase, specific statewide regulations designed to further reduce Diesel particulate matter (DPM) emissions from diesel-fueled engines and vehicles have and continue to be evaluated and developed. The goal of each regulation is to make diesel engines as clean as possible by establishing state-of-the-art technology requirements or emission standards to reduce DPM emissions. To date, the most comprehensive study of air toxics in the South Coast Air Basin (SCAB) is the Multiple Air Toxics Exposure Study (MATES-IV), conducted by Southern California Air Quality Management District (SCAQMD) in 2015. This study is detailed under the SCAQMD in the Regional setting below.

CARB Air Quality and Land Use Handbook

The CARB published the Air Quality and Land Use Handbook in April 2005 to serve as a general guide for considering impacts to sensitive receptors from facilities that emit TAC emissions. The recommendations provided therein are voluntary and do not constitute a requirement or mandate for either land use agencies or local air districts. The goal of the guidance document is to protect sensitive receptors, such as children, the elderly, acutely ill, and chronically ill persons, from exposure to TAC emissions. Some examples of CARB's siting recommendations include the following: (1) avoid siting sensitive receptors within 500 feet of a freeway, urban road with 100,000 vehicles per day, or rural roads with 50,000 vehicles per day; (2) avoid siting sensitive receptors 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 per day, or where transport refrigeration unit operations exceed 300 hours per week); (3) avoid siting sensitive receptors within 300 feet of any dry cleaning operation using perchloroethylene and within 500 feet of operations with two or more machines and (4) avoid siting sensitive receptors within 300 feet of a

large gasoline dispensing facility (3.6 million gallons per year or more) or 50 feet of a typical gasoline dispensing facility (less than 3.6 million gallons per year) (CARB 2005).

Regional

South Coast Air Quality Management District

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles. This area includes all of Orange County, Los Angeles County except for the Antelope Valley, the non-desert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The Air Basin is a sub-region of the SCAQMD jurisdiction. While air quality in this area has improved, the Air Basin requires continued diligence to meet air quality standards.

Air Quality Management Plan

The SCAQMD has adopted a series of Air Quality Management Plans (AQMP) to meet the CAAQS and NAAQS. The SCAQMD and CARB have adopted the 2016 AQMP, which incorporates scientific and technological information and planning assumptions regarding air quality, including the Southern California Association of Governments (SCAG) 2016 Regional Transportation Plan/Sustainable Communities Strategy (RTP/SCS), and emission inventory methodologies for various source categories. The 2016 AQMP was adopted by the AQMD Governing Board on March 3, 2017. CARB approved the 2016 AQMP on March 23, 2017. USEPA approval is pending, but is a necessary requirement before the 2016 AQMP can be incorporated into the State Implementation Plan.

Key elements of the 2016 AQMP include implementing fair-share emissions reductions strategies at the federal, state, and local levels; establishing partnerships, funding, and incentives to accelerate deployment of zero and near-zero-emissions technologies; and taking credit from co-benefits from greenhouse gas, energy, transportation and other planning efforts (SCAQMD 2016a). The strategies included in the 2016 AQMP are intended to demonstrate attainment of the NAAQS for the federal non-attainment pollutants O_3 and PM2.5 (SCAQMD 2016b).

While one purpose of the 2012 AQMP is to bring the Air Basin into attainment with NAAQS for 24-hour PM2.5 by 2014, SCAQMD has since determined that this deadline was impractical due to drought conditions in the region. In 2016, USEPA approved reclassification of the Air Basin from “moderate” to “serious” non-attainment for the 24-hour PM2.5 standard, which has a new attainment deadline of December 31, 2019. The 2016 AQMP demonstrates that the 24-hour standard will be met by 2019 with no additional reductions beyond already adopted and implemented measures. The 2016 AQMP also intensifies the scope and pace of continued air quality improvement efforts toward meeting the 2024 and 2032 8-hour ozone standard deadline with new measures designed to reduce reliance on the CAA Section 182(e)(5) long-term measures for NOx and volatile organic carbon (VOC) reductions. SCAQMD expects exposure reductions to be achieved through implementation of new and advanced control technologies as well as improvement of existing technologies.

The control measures in the 2016 AQMP consist of 8-hour ozone control measures and PM2.5 control measures designed to achieve the ozone and PM2.5 NAAQS by statutory deadlines. The

AQMP includes ten PM2.5 control measures, 15 stationary-source 8-hour ozone measures and 15 early-action measures for mobile sources. In general, the SCAQMD's control strategy for stationary and mobile sources is based on the following approaches: (1) available cleaner technologies; (2) best management practices; (3) incentive programs; (4) development and implementation of near-zero technologies and vehicles and control methods; and (5) emission reductions from mobile sources. Control strategies in the AQMP with potential applicability to short-term emissions from construction activities associated with the Project include strategies denoted in the AQMP as MOB-08 and MOB-10, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment.

Rules and Regulations

Several SCAQMD rules adopted to implement portions of the AQMP may apply to construction or operation of the project. The project may be subject to the following SCAQMD rules and regulations:

Regulation IV – Prohibitions: This regulation sets forth the restrictions for visible emissions, odor nuisance, fugitive dust, various air emissions, fuel contaminants, start-up/shutdown exemptions and breakdown events. The following is a list of rules which may apply to the project:

- **Rule 401 – Visible Emissions:** This rule states that a person shall not discharge into the atmosphere from any single source of emission whatsoever any air contaminant for a period or periods aggregating more than three minutes in any one hour which is as dark or darker in shade as that designated No. 1 on the Ringelmann Chart or of such opacity as to obscure an observer's view.

- **Rule 402 – Nuisance:** This rule states that a person shall not discharge from any source whatsoever such quantities of air contaminants or other material which cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or which endanger the comfort, repose, health or safety of any such persons or the public, or which cause, or have a natural tendency to cause, injury or damage to business or property.

- **Rule 403 – Fugitive Dust:** This rule requires projects to prevent, reduce or mitigate fugitive dust emissions from a site. Rule 403 restricts visible fugitive dust to the project property line, restricts the net PM10 emissions to less than 50 micrograms per cubic meter ($\mu g/m^3$) and restricts the tracking out of bulk materials onto public roads. Additionally, projects must utilize one or more of the best available control measures (identified in the tables within the rule). Mitigation measures may include adding freeboard to haul vehicles, covering loose material on haul vehicles, watering, using chemical stabilizers and/or ceasing all activities. Finally, a contingency plan may be required if so determined by the USEPA.

Regulation XI – Source Specific Standards: Regulation XI sets emissions standards for different specific sources. The following is a list of rules which may apply to the Project:

- **Rule 1113 – Architectural Coatings:** This rule 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.

- **Rule 1186 – PM10 Emissions from Paved and Unpaved Roads, and Livestock Operations:** This rule applies to owners and operators of paved and unpaved roads and livestock operations. The rule is intended to reduce PM10 emissions by requiring the cleanup of material deposited onto paved roads, use of certified street sweeping equipment, and treatment of high-use unpaved roads (see also **Rule 403).**

Regulation XIV – Toxics and Other Non-Criteria Pollutants: Regulation XIV sets requirements for new permit units, relocations, or modifications to existing permit units which emit toxic air contaminants or other non-criteria pollutants.

Air Quality Guidance Documents

The SCAQMD published a *CEQA Air Quality Handbook* (the Handbook) to provide local governments with guidance for analyzing and mitigating project-specific air quality impacts. The Handbook provides standards, methodologies, and procedures for conducting air quality analyses in CEQA documents and was used extensively in the preparation of this analysis. However, the SCAQMD is currently in the process of replacing the Handbook with the *Air Quality Analysis Guidance Handbook*. While this process is underway, the SCAQMD recommends using CalEEMod or another approved model to calculate emissions from land use projects (SCAQMD 1993).

In June 2003, the SCAQMD published a document called the *Localized Significance Threshold Methodology* that is intended to provide voluntary guidance for lead agencies in analyzing localized air quality impacts from projects (SCAQMD 2003). The document was revised in July 2008 to incorporate additional guidance regarding PM2.5 emissions (SCAQMD 2006). The *Localized Significance Threshold Methodology* was also used in the preparation of this assessment.

The SCAQMD has also adopted land use planning guidance in the May 2005 *Guidance Document for Addressing Air Quality Issues in General Plans and Local Planning* which, like the CARB Handbook, also considers impacts to sensitive receptors from facilities that emit TACs. SCAQMD's distance recommendations are the same as those provided by CARB (e.g., the same siting criteria for distribution centers and dry-cleaning facilities). The SCAQMD's document introduces land use-related policies that rely on design and distance parameters to manage potential health risk. The guidance consists of voluntary initiatives recommended for consideration by local planning agencies.

Toxic Air Contaminants

Under SCAQMD Regulation XIV (Toxics and Other Non-Criteria Pollutants), and in particular Rule 1401 (New Source Review), all sources that possess the potential to emit TACs are required to obtain permits from SCAQMD. Permits may be granted to these operations if they are

constructed and operated in accordance with applicable regulations, including new source review standards and air toxics control measures. SCAQMD limits emissions and public exposure to TACs through a number of programs. SCAQMD prioritizes TAC-emitting stationary sources based on the quantity and toxicity of the TAC emissions and the proximity of the facilities to sensitive receptors.

The Air Toxics Control Plan (March 2000, revised March 26, 2004) is a planning document designed to examine the overall direction of SCAQMD's air toxics control program. It includes development and implementation of strategic initiatives to monitor and control air toxics emissions. Control strategies that are deemed viable and are within SCAQMD's jurisdiction will each be brought to the SCAQMD Board for further consideration through the normal public review process. Strategies that are to be implemented by other agencies will be developed in a cooperative effort, and the progress will be reported back to the Board periodically.

In May 2015 the SCAQMD completed the Multiple Air Toxics Exposure Study IV (MATES IV). MATES IV is a monitoring and evaluation study conducted in the SCAB and is a follow up to previous air toxics studies. The study is a follow up to the 2008 MATES III study and consists of several elements including a monitoring program, an updated emissions inventory of toxic air contaminants, and a modeling effort to characterize risk across the SCAB (SCAQMD 2008a). The study focuses on the carcinogenic risk from exposure to air toxics (SCAQMD 2008b). However, it does not estimate mortality or other health effects from particulate exposures. MATES IV shows that the region around the project site area has an estimated carcinogenic risk of up to 965 in 1 million (SCAQMD 2015). These model estimates were based on monitoring data collected at 10 fixed sites within the SCAB.

Southern California Association of Governments

SCAG is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino and Imperial Counties and addresses regional issues relating to transportation, the economy, community development and the environment. SCAG is the federally designated metropolitan planning organization (MPO) for the majority of the southern California region and is the largest MPO in the nation.

With respect to air quality planning, SCAG has prepared the Regional Transportation Plan (RTP) and Regional Transportation Improvement Program (RTIP), which address regional development and growth forecasts and form the basis for the land use and transportation control portions of the AQMP and are utilized in the preparation of the air quality forecasts and consistency analysis included in the AQMP. The RTP, RTIP, and AQMP are based on projections originating within local jurisdictions.

Local

City of El Segundo General Plan

Land Use Element. The intent of the General Plan Land Use Element is to portray the future direction of the City as desired by the existing community. The Land Use Element contains an objective encouraging high quality development/design standards and a corresponding policy ensuring compliance with air quality regulations.

> **Objective LU5-2:** Encourage the construction of high-quality, well designed industrial developments through adoption of property development standards and provisions of community services and utilities.
>
> > **Policy LU5-2.3:** New industrial developments shall comply with seismic, noise, air, water, and environmental regulations.

City of El Segundo Municipal Code

The El Segundo Municipal Code (ESMC) Title 7, Chapter 3: Dust and Particulate Matter is intended to "prohibit unnecessary and excessive emission of dust and particulate matter from all sources subject to its police power".

> *A person shall not create, maintain or cause or allow to be created, maintained or caused, the emissions of dust or particulate matter from any transport, handling, construction, demolition, excavation, grading, clearing of land, or storage activity so that the presence of such dust or particulate matter remains visible in the atmosphere beyond the property line of the emission source.*

The following is applicable to the proposed Project.

Section 7-3-2: Specific Prohibitions:

a) Dust Emissions: A person shall not create, maintain or cause or allow to be created, maintained or caused, the emissions of dust or particulate matter from any transport, handling, construction, demolition, excavation, grading, clearing of land, or storage activity so that the presence of such dust or particulate matter remains visible in the atmosphere beyond the property line of the emission source.

b) Exclusions: A person or entity shall not be found in violation of subsection A of this Section if that person or entity has taken every reasonable precaution to minimize the dust or particulate matter emissions resulting from its activity. Reasonable precautions include, but are not limited to, the following: site watering; soil binders; street sweeping; organic control erosion mats; covering loose soil; sloping and bracing excavation sites to minimize erosion; and establishing ground cover.

Section 7-3-3: Exceptions; City Permit:

The City Council reserves the right to exempt certain activities which require a City permit from the regulations under this Chapter. The exemption under this Section must appear on the permit.

The ESMC Chapter 15-16 sets forth requirements for major new developments to provide facilities that encourage and accommodate the use of ridesharing, transit, pedestrian, and bicycle commuting as alternatives to single occupant motor vehicle trips. According to ESMC Section 15-16-2, before approval of any development project, the Applicant must provide for, at a minimum, all of the applicable transportation demand management (TDM) and trip reduction measures, as specified in ESMC Section 15-16-3: *Development Standards*, which include, without limitation, the following:

a) Development of 25,000 square feet or more: a bulletin board, display case or kiosk displaying transportation information located where the greatest number of employees are likely to see it (ESMC includes specific requirements regarding content);

b) Development of 50,000 square feet or more: the measures in subsection A above; preferential parking (not less than 15 percent of employee parking areas; high occupancy vehicle (HOV) loading area; vanpool access; on site amenities or shuttle; bicycle facilities; shower and lockers (optional); transit support facilities (optional): Projects may provide facilities which will promote transit use.

Development of 100,000 square feet or more: the measures in subsections A and B above; sidewalks or other designated pathways; bus stop improvements (if deemed necessary by the City); and access from external circulation system to on-site bicycle parking facilities. Certain activities which require a City permit may be exempt from the regulations under this Chapter. The exemption must appear on the permit.

5.2.2 Environmental Setting

South Coast Air Basin

Geography

The South Coast Air Basin is a 6,600-square mile area bounded by the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east, and the Pacific Ocean to the west. The South Coast Air Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino Counties, in addition to the San Gorgonio Pass area of Riverside County. The site elevation is approximately 15 feet above sea level. Small bluffs (approximately 100 feet high) run north to south just east of the Project boundary, with elevate terrain a significant distance from the Project site (approximately 6 miles).

The extent and severity of the air pollution problem in the South Coast Air 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 South Coast Air Basin.

Climate

The general region lies in the semi-permanent high-pressure zone of the eastern Pacific centered off the coast of California. 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 South Coast Air Basin, averaging 75 degrees Fahrenheit (°F). However, with a less-pronounced oceanic influence, the South Coast Air Basin's eastern inland portions show greater variability in annual minimum and maximum temperatures. All portions of the South Coast Basin have recorded temperatures over 100°F in recent years.

The large-scale wind flow pattern is a diurnal cycle driven by the differences in temperature between the land and the ocean as well as the mountainous terrain surrounding the South Coast Air Basin. The Tehachapi and Temblor mountains separate the South Coast and San Joaquin Valley Air Basins. The San Bernardino, San Gabriel, and Santa Rosa mountains generally make up the eastern mountain range of the South Coast Air Basin. The Santa Monica and Santa Ana mountains make up the northern and southern (respectively) coastal mountain ranges of the South Coast Air Basin.

Although the South Coast Air 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 South Coast Air 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 South Coast Air Basin's eastern portion. Precipitation in the South Coast Air 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 South Coast Air Basin's coastal areas.

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 area of the South Coast Air 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 O_3 observed during summer months in the South Coast Air 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, allowing them to form secondary pollutants by reacting with sunlight. The South Coast Air Basin has a limited ability to disperse these pollutants due to typically low wind speeds.

The Project area 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 climate in the Project area is typically warm during summer when temperatures tend to be in the mid-70's and cool during winter when temperatures tend to be in the 60's. The warmest month of the year is August with an average maximum temperature of 75 degrees Fahrenheit, while the coldest month of the year is December with an average minimum temperature of 49 degrees Fahrenheit. The annual average precipitation is 13.0 inches. Rainfall occurs most frequently in February, with an average rainfall of 3.4 inches (The Weather Channel 2018).

Local Ambient Air Quality

The SCAQMD monitors air quality at 37 monitoring stations throughout the South Coast Air Basin. Each monitoring station is located within a Source Receptor Area (SRA). The communities within an SRA are expected to have similar climatology and ambient air pollutant concentrations. The Project components would traverse or be located within various South Bay cities/communities, all of which are located in the Southwest Coastal Los Angeles County (SRA 3).[1] The monitoring station representative of the Project area is the Southwest Coastal LA County Station. The air pollutants measured at this station site include O_3, CO (1-hour and 8-hour averaging period), NO_2, SO_2, and PM_{10}. $PM_{2.5}$ is not measured at this station. The nearest station to the proposed desalination facility site measuring $PM_{2.5}$ is the South Central LA County station (within SRA 12). The air quality data monitored from 2014 to 2016 are presented in **Table 5.2-2**.

TABLE 5.2-2
LOCAL AIR QUALITY LEVELS

Pollutant	Primary Standard		Year	Maximum Concentration[1]	Number of Days State/Federal Std. Exceeded
	California	Federal			
Carbon Monoxide (CO) 2 (1-Hour)	20 ppm for 1 hour	35 ppm for 1 hour	2014 2015 2016	3.0 ppm 1.7 1.6	0/0 0/0 0/0
Carbon Monoxide (CO) 2 (8-Hour)	9.0 ppm for 8 hours	9.0 ppm for 8 hours	2014 2015 2016	1.9 ppm 1.4 1.3	0/0 0/0 0/0
Ozone (O_3) [2] (1-Hour)	0.09 ppm for 1 hour	N/A	2014 2015 2016	0.114 ppm 0.096 0.087	1/0 1/0 0/0
Ozone (O_3) [2] (8-Hour)	0.07ppm for 8 hours	0.070 ppm for 8 hours	2014 2015 2016	0.080 ppm 0.077 0.080	6/6 3/3 3/2
Nitrogen Dioxide (NO_x) [2]	0.18 ppm for 1 hour	0.100 ppm for 1 hour	2014 2015 2016	0.087 ppm 0.087 0.082	0/0 0/0 0/0
Particulate Matter (PM_{10}) [2, 5, 6]	50 µg/m^3 for 24 hours	150 µg/m^3 for 24 hours	2014 2015 2016	46.0 µg/m^3 42.0 43.0	0/0 0/0 0/0

1 The communities of Del Aire, El Camino Village (Alondra Park, El Segundo, Gardena, Lawndale, Hawthorne, Manhattan Beach, and Redondo Beach are all located in SRA 3.

Pollutant	Primary Standard		Year	Maximum Concentration[1]	Number of Days State/Federal Std. Exceeded
	California	Federal			
Fine Particulate Matter ($PM_{2.5}$) [4, 6]	No Separate State Standard	35 µg/m^3 for 24 hours	2014	52.2 µg/m^3	NM/2
			2015	54.6	NM/3
			2016	29.37	NM/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 Los Angeles-Westchester Parkway Monitoring Station located at 7201 West Westchester Parkway, Los Angeles, California 90045.
3 Measurements taken at the West Los Angeles-VA Hospital Monitoring Station located at Wilshire Boulevard and Sawtelle, Los Angeles, California 90025.
4 Measurements taken at the Compton Monitoring Station located at 700 North Bullis Road, Compton, California 90221.
5 PM_{10} exceedances are based on State thresholds established prior to amendments adopted on June 20, 2002.
6 PM_{10} and $PM_{2.5}$ exceedances are derived from the number of samples exceeded, not days.

SOURCE: SCAQMD 2018.

The following air quality information briefly describes the various types of pollutants monitored at the nearest representative monitoring stations to the desalination facility site.

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). O_3 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 stratosphere (the "good" ozone layer) extends upward from about 10 to 30 miles and protects life on earth from the sun's harmful ultraviolet rays.

The "bad" O_3 is a photochemical pollutant that needs volatile organic compounds (VOCs), NO_X, and sunlight to form; therefore, VOCs and NO_X are ozone precursors. To reduce O_3 concentrations, it is necessary to control the emissions of these O_3 precursors. Significant O_3 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 O_3 concentrations can form over large regions when emissions from motor vehicles and stationary sources are carried hundreds of miles from their origins.

While O_3 in the upper atmosphere (stratosphere) protects the earth from harmful ultraviolet radiation, high concentrations of ground-level O_3 (in the troposphere) can adversely affect the

human respiratory system and other tissues. O_3 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 O_3. Short-term exposure (lasting for a few hours) to O_3 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, and 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.

Fine Particulate Matter ($PM_{2.5}$). Due to 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 USEPA announced new $PM_{2.5}$ standards. Industry groups challenged the new standard in court, blocking its implementation. However, upon appeal by the USEPA, the United States Supreme Court reversed this decision and upheld the USEPA's new standards.

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. Exposure of a few minutes to low levels of SO_2 can result in airway constriction in some asthmatics.

Reactive Organic Gases and Volatile Organic Compounds. Hydrocarbons are organic gases that are formed solely of hydrogen and carbon. There are several subsets of organic gases including reactive organic gases (ROGs) and VOCs. Both ROGs and VOCs are emitted from the incomplete combustion of hydrocarbons or other carbon-based fuels. The major sources of

hydrocarbons are combustion engine exhaust, oil refineries, and oil-fueled power plants; other common sources are petroleum fuels, solvents, dry cleaning solutions, and paint (via evaporation).

A brief summary of the criteria pollutant principal health and atmospheric effects is provided in **Table 5.2-3**.

TABLE 5.2-3
CRITERIA POLLUTANT EFFECTS

Pollutant	Principal Health and Atmospheric Effects
Ozone (O_3)	High concentrations irritate lungs. Long-term exposure may cause lung tissue damage and cancer. Long-term exposure damages plant materials and reduces crop productivity. Precursor organic compounds include many known toxic air contaminants. Biogenic VOC may also contribute.
Carbon Monoxide (CO)	CO interferes with the transfer of oxygen to the blood and deprives sensitive tissues of oxygen. CO also is a minor precursor for photochemical ozone. Colorless, odorless.
Respirable Particulate Matter (PM_{10})	Irritates eyes and respiratory tract and decreases lung capacity. Associated with increased cancer and mortality. Contributes to haze and reduced visibility. Includes some toxic air contaminants. Many toxic and other aerosol and solid compounds are part of PM_{10}.
Fine Particulate Matter ($PM_{2.5}$)	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and produces surface soiling. Most diesel exhaust particulate matter (a toxic air contaminant) is in the $PM_{2.5}$ size range. Many toxic and other aerosol and solid compounds are part of $PM_{2.5}$.
Nitrogen Dioxide (NO_2)	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown. Contributes to acid rain and nitrate contamination of stormwater. Part of the "NO_X" group of ozone precursors.
Sulfur Dioxide (SO_2)	Irritates respiratory tract; injures lung tissue. Can yellow plant leaves. Destructive to marble, iron, steel. Contributes to acid rain. Limits visibility.

Sensitive Receptors

Sensitive populations (sensitive receptors) are more susceptible to air pollution effects than the general population. Sensitive populations that are in proximity to localized sources of toxics and criteria pollutants such as NOx, PM, and CO are of particular concern. Some land uses are considered more sensitive to air quality changes 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 with potential to contain a high concentration of these sensitive population groups are called sensitive receptors and include residential areas, hospitals, day-care facilities, elder-care facilities, places of worship, elementary schools, and parks. Sensitive receptors in the Project area include residential uses, schools, and parks. Sensitive receptors located in the vicinity of the proposed desalination facility site are listed in **Table 5.2-4**.

TABLE 5.2-4
SENSITIVE RECEPTORS

Type	Name	Distance from Desalination Facility Site (feet)[1]	Direction from Desalination Facility Site
Residential	Residential Uses	130	South (South Site)
		25	North (pipeline Alignment)
Schools	Richmond Street Elementary School	2,730	North (pipeline)
	El Segundo Middle School	1,200	North (pipeline)
	Saint Anthony's Catholic School	540	North (pipeline)
	Grand View Elementary School	4,725	South (South Site)
Places of Worship	El Segundo Christian Church	590	North (pipeline)
	True Insight Church	25	North (pipeline)
	St. Michael's Episcopal Church	1,475	North (pipeline)
	Saint Anthony's Catholic School	540	North (pipeline)
Parks	Recreation Park	1,380	North (pipeline)
	El Segundo Beach	500	North (North Site)
	Bruce's Beach Park	4,381	South (South Site)
	Sand Dune Park	3,558	Southeast (South Site)

NOTES:
1 Distances to sensitive receptors are extrapolated from the proposed ocean water desalination facility site (ESGS South Site) or the conveyance facilities as indicated. The ESGS South Site is closer to sensitive receptors than the EEGS North Site and, therefore presents the most conservative level of analysis.
SOURCE: Google Earth 2016.

5.2.3 Significance Thresholds and Criteria

SCAQMD Thresholds

Under CEQA, the SCAQMD is an expert commenting agency on air quality within its jurisdiction or impacting its jurisdiction. Under the FCAA, the SCAQMD has adopted federal attainment plans for O_3 and PM_{10}. The SCAQMD reviews projects to ensure that they would not: (1) cause or contribute to any new violation of any air quality standard; (2) increase the frequency or severity of any existing violation of any air quality standard; or (3) delay timely attainment of any air quality standard or any required interim emission reductions or other milestones of any federal attainment plan.

SCAQMD's *CEQA Air Quality Handbook* also provides significance thresholds to assess the impact of project related air pollutant emissions. **Table 5.2-5** presents these significance thresholds. There are separate thresholds for construction-related and operational emissions. A project with daily emission rates below these thresholds is considered to have a less than significant effect on regional air quality and to not make a considerable contribution to a cumulative impact. The SCAQMD is in the process of updating the thresholds.

TABLE 5.2-5
SCAQMD MASS DAILY 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: SCAQMD 1993.

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 analyses. 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. For sites over 5 acres, if the emissions exceed the screening level thresholds in the lookup tables the site would have the potential to result in significant local impacts and the SCAQMD recommends air quality dispersion modeling to assess impacts to nearby sensitive receptors.

Localized CO

The Project would be significant if it would cause or contribute to an exceedance of the CAAQS 1-hour or 8-hour CO standards of 20 or 9.0 parts per million (ppm), respectively. As discussed below, the Project uses a daily vehicle count of 100,000 per intersection as a screening level thresholds. Projects that are below the 100,000 vehicles per day would not be anticipated to exceed the CAAQS.

The SCAQMD conducted CO modeling for the 2003 AQMP for the four worst-case intersections in the SCAB. These include: (a) Wilshire Boulevard and Veteran Avenue; (b) Sunset Boulevard and Highland Avenue; (c) La Cienega Boulevard and Century Boulevard; (d) Long Beach Boulevard and Imperial Highway. In the 2003 AQMP, the SCAQMD notes that the intersection of Wilshire Boulevard and Veteran Avenue is the most congested intersection in Los Angeles County, with an average daily traffic volume of about 100,000 vehicles per day. This intersection is located near the on- and off-ramps to Interstate 405 in West Los Angeles. The evidence provided in Table 4-10 of Appendix V of the 2003 AQMP shows that the peak modeled CO concentration due to vehicle emissions at these four intersections was 4.6 ppm (1-hour average) and 3.2 (8-hour average) at Wilshire Boulevard and Veteran Avenue. When added to the existing background CO concentrations, the screening values would be 8.7 ppm (1-hour average) and 5.6 ppm (8-hour average). Based on the data, more than 100,000 vehicles per day would need to pass through an intersection in order for the thresholds to be exceeded (SCAQMD 2003).

Toxic Air Contaminants

The Project would be significant if it would emit carcinogenic materials or TACs that exceed the maximum incremental increase in cancer risk of ten in one million or a cancer burden greater than 0.5 excess cancer cases (in areas with maximum incremental increase of greater than or equal to 1 in 1 million); or result in an acute or chronic hazard index greater than 1.

Odors

Based on the criteria in Appendix G of the CEQA Guidelines, the Project would be considered potentially significant for odors if the Project would create objectionable odors affecting a substantial number of people.

Cumulative Emissions

The SCAQMD's AQMP is 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 *CEQA Air Quality Handbook*, project-related emissions that fall below the established construction and operational thresholds should be considered less than significant and to not make a considerable contribution towards a cumulative impact (unless there is substantial evidence to the contrary).

If a project exceeds these emission thresholds, the *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 emissions 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 El Segundo 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:

- Conflict with or obstruct implementation of the applicable air quality plan (refer to Impact AQ 5.2-1).
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation (refer to Impact AQ 5.2-2).
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors) (refer to Impacts AQ 5.2-2 and 5.2-3).
- Expose sensitive receptors to substantial pollutant concentrations (refer to Impact AQ 5.2-4).
- Create objectionable odors affecting a substantial number of people (refer to Impact AQ 5.2-5).

Potentially Significant Impacts

The environmental factors determined to be potentially affected by the Project, identified in the Notice of Preparation (see Appendix 1A), are analyzed below. Feasible mitigation measures are recommended, where warranted, to avoid or minimize the Project's significant adverse impacts.

5.2.4 Impacts and Mitigation Measures

Plan Consistency

Impact AQ 5.2-1: Would the Project conflict with or obstruct implementation of the applicable air quality plan?

According to the SCAQMD's CEQA Air Quality Handbook, the purpose of the consistency finding is to determine if a project is inconsistent with the assumptions and objectives of the regional air quality plans, and thus if it would interfere with the region's ability to comply with federal and state AAQS. Growth assumptions within the AQMP are based on growth assumptions and land use designations included within local general plans.

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland Project components for both the Local and Regional Projects. **Table 5.2-6** summarizes the impact significance conclusions.

TABLE 5.2-6
SUMMARY OF IMPACT AQ 5.2-1 PLAN CONSISTENCY

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact AQ 5.2-1: Impacts on plan consistency.			
Local Project			
Construction	LTS	LTS	LTS
Operation	LTS	LTS	LTS
Regional Project			
Construction	LTS	LTS	LTS
Operation	LTS	LTS	LTS

NOTES:
LTS = Less than Significant, no mitigation proposed

Local Project

Construction-Related Impacts

All Project Components

Under this criterion, the SCAQMD recommends that lead agencies demonstrate that a project would not directly obstruct implementation of an applicable air quality plan and that a project be consistent with the assumptions (typically land-use related, such as resultant employment or

residential units) upon which the air quality plan is based. Construction of the Local Project would result in an increase in short-term employment compared to existing conditions. While the Project will require up to 200 workers per day over the construction process, these jobs are temporary in nature and would be expected to be filled from the local labor market. Thus, it is not anticipated that a substantial number of construction workers would move to the region to work on the Project. Furthermore, the construction activities would not result in permanent employment opportunities for the region. Therefore, construction jobs under the Local Project would not conflict with the long-term employment projections upon which the AQMP is based.

Control strategies as denoted in the AQMP with potential applicability to short-term emissions from construction activities include MOB-08 and MOB-10, which are intended to reduce emissions from on-road and off-road heavy-duty vehicles and equipment by accelerating replacement of older, emissions-prone engines with newer engines meeting more stringent emission standards. The Project would utilize low-VOC coatings during construction activities to avoid excessive VOC emissions (in accordance with SCAQMD Regulations). Trucks and other vehicles in loading and unloading queues would be parked with engines off to reduce vehicle emissions during construction activities. Additionally, the Local Project would comply with CARB requirements to minimize short-term emissions from on-road and off-road diesel equipment. The Project would also comply with SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403. In addition, with implementation of Mitigation Measure AQ-3 the Project would further MOB-8 and MOB-10 by implementing Tier 4 construction equipment and therefore implementing more efficient equipment prior to the implementation requirements in the AQMP.

Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. Because the Project would not conflict with the control strategies intended to reduce emissions from construction equipment, the Project would not conflict with or obstruct implementation of the AQMP, and impacts would be less than significant.

Mitigation Measures:

None Required. However, it is noted that Mitigation Measure AQ-3 (detailed under Impact 5.2-2 below) would further reduce emissions below simple compliance with AQMP control strategies.

Local Project Significance Determination:

Less than Significant Impact.

Operational Impacts

All Project Components

The AQMP was prepared to accommodate growth, reduce the levels of pollutants within the areas under the jurisdiction of SCAQMD, return clean air to the region, and minimize the impact on the economy. Projects that are considered consistent with the AQMP would not interfere with attainment because this growth is included in the projections used in the formulation of the AQMP.

The Project site is located in the City of El Segundo. Local Project ocean water desalination facility operations represents a long-term change in land use for the site, although the desalination facility is generally consistent with the ESGS site's M2 land use designation. The Project would not result in a direct increase in regional residential population (as it is not a residential project) or a substantial increase in employment (the Local Project would increase employment by up to 20 people).

The new potable water supply provided by the Local Project would be consistent with West Basin's 2015 UWMP and other regional and state water supply planning programs. Project water would not result in a direct or indirect increase in population as it is intended to replace current imported supplies with a local supply, not to increase total water supply provided by West Basin to its customer agencies. The Project would be consistent with other applicable SCAQMD rules and regulations. The Project is not anticipated to induce growth beyond current adopted local land use plans; refer to Section 6.2, *Growth-inducing Impacts* for additional discussion. Therefore, the Local Project ocean water desalination facility would be consistent with the 2016 AQMP, and impacts would be less than significant.

Mitigation Measures:

None Required.

Local Project Significance Determination:

Less than Significant Impact.

Regional Project

Construction-Related Impacts

All Project Components

Similar to the Local Project, the Regional Project would utilize low-VOC coatings during construction activities to avoid excessive VOC emissions (in accordance with SCAQMD Regulations). Trucks and other vehicles in loading and unloading queues would be parked with engines off to reduce vehicle emissions during construction activities. Additionally, the Regional Project would comply with CARB requirements to minimize short-term emissions from on-road and off-road diesel equipment. The Project would also comply with SCAQMD regulations for controlling fugitive dust pursuant to SCAQMD Rule 403. In addition, with implementation of Mitigation Measure AQ-3 the Project would further MOB-8 and MOB-10 by implementing Tier 4 construction equipment and therefore implementing more efficient equipment prior to the implementation requirements in the AQMP.

Compliance with these requirements is consistent with and meets or exceeds the AQMP requirements for control strategies intended to reduce emissions from construction equipment and activities. Because the Project would not conflict with the control strategies intended to reduce emissions from construction equipment, the Project would not conflict with or obstruct implementation of the AQMP, and impacts would be less than significant.

Mitigation Measures:

None Required. Mitigation Measure AQ-3 (detailed under Impact 5.2-2 below) would further reduce emissions below simple compliance with AQMP control strategies.

Regional Project Significance Determination:

Less than Significant Impact.

Operational Impacts

All Project Components

Regional Project ocean water desalination facility operations represents a long-term change in land use for the site (from ESGS facilities to a desalination facility), although the desalination facility would be generally consistent with the ESGS site's M2 land use designation. The Project would not result in a direct increase in regional residential population or employment (as it is not a residential project) or a substantial increase in employment (the Regional Project would increase employment by an additional 4 people above what would be employed under the Local Project).

The Regional Project would be pursued in partnership with other agencies. Like the Local Project, it is anticipated that the Regional Project would provide a reliable source of water that would replace imported water to MWD member agencies or other entities consistent with adopted local land use plans and UWMPs. Refer to Section 6.2, *Growth-inducing Impacts* for additional discussion. Therefore, the Regional Project ocean water desalination facility would also be consistent with the AQMP. Therefore, impacts would be less than significant.

Mitigation Measures:

None Required

Regional Project Significance Determination:

Less than Significant Impact.

Federal Conformity Analysis for SRF (CEQA Plus)

Pursuant to State Water Resources Control Board (SWRCB) CEQA-Plus requirements, this analysis has been structured to document Project compliance with the Federal Clean Air Act (FCAA) General Conformity requirements. The General Conformity process review is designed to ensure that actions taken by federal agencies do not interfere with the emissions budgets in the State Implementation Plans (SIPs) required under the Clean Air Act, do not cause or contribute to new violations; do not increase the frequency or severity of existing violations, and meet attainment and maintenance requirements of the NAAQS. There are four steps in a General Conformity Review: (1) Determine if the Action results in emissions of criteria pollutants; (2) Determine if the emissions would occur in a non-attainment or maintenance area; (3) Determine if the action is exempt; and (4) Determine if the emissions are below the threshold values.[2] Actions which result in emissions of non-attainment criteria pollutants in excess of thresholds, which are not exempt, must then complete the Conformity Determination Process. If

[2] https://www.energy.gov/sites/prod/files/nepapub/nepa_documents/RedDont/G-DOE-cleanairactguidance.pdf

warranted, the Conformity Determination Process involves three steps: (1) selection of the conformity criteria; (2) analyses to determine conformity; and (3) formal Conformity Finding.

General Conformity Review

Step 1: The Action would result in the construction and operation of a desalination plant at an existing water treatment facility. The Project would result in a net increase in emissions of criteria pollutants, specifically oxides of nitrogen (NOx), volatile organic compounds (VOCs), carbon monoxide (CO), and particulate matter (PM), over existing conditions.

Step 2: The Project Site is located in the SCAB. The SCAB has achieved the attainment status of the NAAQSs as shown in Table 5.2-1 [3]

Step 3: The Action is not exempt because it is not a transportation project that falls under the exemption criteria of CFR 40 Section 93.126 or Section 93.127.

Step 4: Because the Action results in emissions of non-attainment or maintenance pollutants, and is not exempt, emissions must be compared to threshold, or *de minimis* levels. If a project's emissions are below the *de minimis* level and are less than 10% of the areas inventory specified for each criteria pollutant in a nonattainment or maintenance area, further general conformity analysis is not required.

Construction and operation emissions are summarized in **Table 5.2-7**. As shown therein, conservative construction assumptions for both the Local and Regional Projects could result in exceedances of the federal *de minimis* levels for NOx, but would not exceed the federal *de minimis* levels for the other pollutants (VOC, CO, SOx, PM10, and PM2.5).[4] Operation of the Project would not result in emissions in excess of *de minimis* levels.

[3] http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf

[4] *De minimis* levels are established within Title 40 of the Code of Federal Regulations, Section 93.153 (40 CFR 93.153). The Project is located within the South Coast Air Basin, which is federally designated as extreme nonattainment for ozone and severe nonattainment for $PM_{2.5}$. The South Coast Air Basin is federally designated as attainment/maintenance for PM_{10}. *De minimis* levels are in tons/year, which are calculated based on the daily emissions cited in Impact AQ 5.2-2 over a typical year of 260 work days. From a conformity standpoint, areas classified as O_3 non-attainment areas are exempt from conformity determination requirements if emissions of ROG and NOx would each be less than 10 tons per year. Areas classified $PM_{2.5}$ non-attainment are exempt from conformity determination requirements if emissions of $PM_{2.5}$ would be less than 100 tons per year. Areas classified CO, SOx, and PM_{10} attainment/maintenance are exempt from conformity determination requirements if emissions of PM_{10} would be less than 100 tons per year.

TABLE 5.2-7
LOCAL AND REGIONAL PROJECT NET INCREASE IN ANNUAL EMISSIONS

	Daily Pollutant Emissions (tons/year)1					
	Ozone					
Emissions Source	**VOC**	**NOX**	**CO**	**SOX**	**PM10**	**PM2.5**
Construction						
Local Mitigated						
2021	<1	4	6	1	1	<1
2022	4	**30**	28	7	2	1
2023	1	**13**	18	<1	2	1
2024	4	8	19	<1	2	1
2025	4	6	15	<1	2	1
2026	1	2	4	<1	1	<1
De minimis levels	*10*	*10*	*100*	*100*	*100*	*100*
Emissions de minimis levels?	***No***	***Yes***	***No***	***No***	***No***	***No***
Regional Mitigated						
2026 (without Local)	3	**12**	15	2	1	1
2026 (with Local)	5	**14**	19	2	2	1
2027	2	7	14	<1	2	1
2028	<1	4	8	<1	1	<1
De minimis levels	*10*	*10*	*100*	*100*	*100*	*100*
Emissions de minimis levels?	***No***	***Yes***	***No***	***No***	***No***	***No***
Operational						
Max Annual	3	<1	1	<1	<1	<1
De minimis levels	*10*	*10*	*100*	*100*	*100*	*100*
Emissions de minimis levels?	***No***	***No***	***No***	***No***	***No***	***No***

CO = carbon monoxide; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns
NOTES:
1. Emissions were calculated using CalEEMod, as recommended by the SCAQMD and discussed above.
2. Note that construction emissions are based on worst case assumptions regardless of the site being analyzed, specifically the demolition and excavation required for construction of the south site was used.
SOURCE: Appendix 3, Air Quality Emissions Data, for assumptions used in this analysis.

The annual emissions estimates presented above are calculated based on a worst-case maximum day scenario extrapolated for an entire year and in addition the maximum emission day assumptions include worst case estimates as to truck and equipment activities based on a conceptual design (Section 3). While it is anticipated that there would be some days where the maximum emissions occur in ever year, it is not anticipated that the maximum year emissions would occur every day throughout the construction activities. Therefore, while the annual emissions presented above exceed the *de minimis* levels, it is not anticipated that the exceedances would be to the extent presented in Table 5.2-7.

It is expected that a more actuate estimate can only be made during the detailed design phase when more site specific information and design details become available, such as dredged material disposal methods, volume of soil material import to and export from site. The estimate conducted during the detailed design phase would determine whether the emissions exceed threshold levels and whether a conformity determination would be required. However, if the project meets the requirements of CFR 40 Section 93.158 *Criteria for determining conformity of general Federal actions*, an affirmative determination can be made.

According to CFR 40 Section 93.158 *Criteria for determining conformity of general Federal actions:*

> "(a) An action required under §93.153 to have a conformity determination for a specific pollutant will be determined to conform to the applicable SIP if, for each pollutant that exceeds the rates in §93.153(b), or otherwise requires a conformity determination due to the total of direct and indirect emissions from the action, the action meets the requirements of paragraph (c) of this section, and meets any of the following requirements:…
>
> (5) For ozone or nitrogen dioxide, and for purposed of paragraphs (a)(3)(ii) and (a)(4)(ii) of this section, each portion of the action or the action as a whole meets any of the following requirements:…
>
> (v) Where the action involves regional water and/or wastewater projects, such projects are sized to meet only the needs of the population projections that are in the applicable SIP.
>
> (c)… an action subject to this subpart may not be determined to conform to the applicable SIP unless the total of direct and indirect emissions from the action is in compliance or consistent with all of the relevant requirements and milestones contained in the applicable SIP, such as elements identified as part of the reasonable further progress schedules, assumptions specified in the attainment or maintenance demonstration, prohibitions, numerical emissions limits, and work practice requirements."

West Basin meets the conformance criteria under CFR 40 Section 93.158(5)(v) since it is a regional water project that is sized to replace approximately 11% of the imported water supplies to meet existing demand and population projections included in the SIP. The proposed Project would provide replacement water to meet existing and future water demands outlined in the 2015 UWMP, reducing the District's imported water dependency. The water demands identified in the UWMP are based on the applicable SCAG RTP/SCS population and water demand projections that are specifically developed to conform to the SCAB's SIP for NOx. As a result, the Project conforms with the SIP population assumptions and meets the criteria for conformance applied to regional water supply projects.

Current projections show that population is expected to increase minimally from 813,000 people in 2015 to 891,617 in 2040, representing an average growth of 0.4% annually. This small growth rate is because many cities in the service area are older cities that anticipate reaching build-out in

the near-term. The number of households in West Basin's service area is expected to increase 4.5% in the next 25 years from 294,293 in 2015 to 308,161 in 2040. Urban employment in West Basin's service area is expected to rise by 7.2% in the next 25 years (West Basin 2016).

The majority of the construction NOx emissions associated with the Project would occur due to worst-case assumptions regarding the number of off-road construction equipment, number of truck trips and marine vessels all occurring simultaneously. The potential to exceed de minimis thresholds would occur for two years (2022 and 2023). These temporary exceedances would not interfere with the successful implementation of the SIP in achieving attainment status. Furthermore, the proposed project would implement requirements to utilize Tier 4 engines for all construction activities. The Project's implementation of the Tier 4 equivalent equipment fleet would help to ensure that the NOx reductions required by 2023 and 2031 are achieved by the early implementation of the construction fleet dedicated to Tier 4 equivalent equipment. With this commitment, West Basin would implement reasonable measures available to minimize direct NOx emissions during construction.

With respect to operational emissions, the Project does not involve any uses that would increase population beyond that considered in the 2016 RTP/SCS or 2012 and 2016 AQMPs. The Project does not include the construction of new residential or commercial buildings nor would it induce such growth by providing additional water beyond what is already imported (the Project would replace existing less reliable, imported sources of water); therefore, it would not result in any increase in population. The Project would result in a net increase in 24 employees at the buildout of the Regional Project, however the nominal increase in employment is not beyond the growth projections in the 2016 RTP/SCS or the AQMPs.

Because the proposed Project would be consistent with the assumptions regarding equipment activity and emissions in the 2016 AQMP and existing planning documents, it is expected that the intensity of construction and operational emissions associated with the proposed Project is accounted for in the AQMP and therefore the SIP. Therefore, implementation of the proposed Project would not obstruct or conflict with the AQMP. In addition, as discussed above, Project facilities are sized to meet only the needs of current population projections that are used in the approved SIP for air quality, consistent with West Basin's adopted UWMP. Therefore, the proposed Project is considered to be in conformance with the SIP.

Air Quality Standards

Impact AQ 5.2-2: Would the Project violate any air quality standard or contribute substantially to an existing or projected air quality violation?

The air quality analysis is based on the assumptions below.

Construction

Construction of the proposed Project has the potential to generate temporary criteria pollutant emissions through the use of heavy-duty construction equipment, such as excavators and forklifts, and through vehicle trips generated from worker trips and haul trucks traveling to and from the Project Site. In addition, fugitive dust emissions would result from demolition and various soil-

handling activities. Mobile source emissions, primarily NO_X, would result from the use of construction equipment such as dozers and loaders. Construction emissions can vary substantially from day to day, depending on the level of activity, the specific type of construction activity, and prevailing weather conditions. The assessment of construction air quality impacts considers each of these potential sources.

Daily regional emissions during construction are forecasted by assuming conservative construction activities (i.e., assuming all construction occurs at the earliest feasible date) and applying the mobile source and fugitive dust emissions factors. The emissions are estimated using the CalEEMod (Version 2016.3.2) software, an emissions inventory software program recommended by the SCAQMD for all land-based emissions. CalEEMod is based on outputs from OFFROAD and EMFAC, which are emissions estimation models developed by CARB and used to calculate emissions from construction activities, including on-and off-road vehicles. Default CalEEMod inputs were used for the modeling where Project specific details were not available. These values were then applied to the construction phasing assumptions used in the criteria pollutant analysis to generate criteria pollutant emissions values for each construction activity. Marine based emissions estimates were calculated outside of CalEEMod and were based on USEPA emissions factors for marine vessels. Detailed construction equipment lists, construction scheduling, and emissions calculations are provided in Appendix 3 as well as Section 3, *Project Description*.

The modeling assumed that the Local Project would begin construction in 2021 and completed in 2026. If construction is delayed, construction impacts should be less than those analyzed herein, because a more energy-efficient and cleaner burning construction equipment fleet mix are expected in the future, pursuant to State regulations that require construction equipment fleet operators to phase-in less polluting heavy-duty equipment.

The proposed Project would consist of separate construction activities for the ocean water desalination facility, screened ocean intake and concentrate discharge, and desalinated water conveyance systems that would occur concurrently. Local Project construction would require excavators, tractors, loaders, concrete/industrial saws, cranes, and various other construction equipment. Emissions for each construction phase have been quantified based upon the phase durations and equipment types.

Construction phases are anticipated to overlap to some degree as detailed in Appendix 3. Emissions from these activities are estimated by construction phase. The maximum daily emissions are predicted values for the worst-case day and do not necessarily represent the emissions that would occur for every day of Project construction. The maximum daily emissions are compared to the SCAQMD daily thresholds of significance.

Operation

The Project will involve the operation of the desalination plant subsequent to the construction. Energy consumption for the Project is based on the size of the buildings and types of processes. Electrical and water consumption, as well as wastewater and solid waste generation are indirect sources that would not result in direct air quality emissions associated with the Project and were

not modeled. Sources of direct emissions associated with the Project include natural gas for heating, architectural coating from the reapplication of paints etc., mobile sources (including employee trips and site deliveries), and the use of consumer products (such as cleaning supplies). Emissions were calculated using the CalEEMod modeling program and detailed assumptions are included in Appendix 3 as well as Section 3.0*, Project Description*.

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland Project components for both the Local and Regional Projects. **Table 5.2-8** summarizes the impact significance conclusions.

TABLE 5.2-8
SUMMARY OF IMPACT AQ 5.2-2 AIR QUALITY STANDARDS

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact AQ 5.2-2: Impacts on air quality standards.			
Local Project			
Construction	SU	SU	SU
Operation	LTS	LTS	LTS
Regional Project			
Construction	SU	SU	SU
Operation	LTS	LTS	LTS

NOTES:
LTS = Less than Significant, no mitigation proposed
SU = Significant and Unavoidable impact, even after implementation of mitigation

Local Project

Construction-Related Impacts

Construction-related air quality impacts are predicted to occur during demolition, grading, and construction operations associated with Project implementation. Temporary impacts would result from Project construction activities. **Table 5.2-9** and **Table 5.2-10** present the anticipated maximum unmitigated and mitigated daily construction emissions by year. As described in more detail below, mitigation includes compliance with SCAQMD Rule 403 and mitigation for exhaust emissions includes the use of CARB Tier 4 certified engines as set forth in AQ-2 through AQ-4.

The combined emissions are calculated to account for a possible worse-case day when all three components are being constructed on the same day. As Indicated in Table 5.2-10, mitigated NO_x emissions would exceed SCAQMD thresholds during construction years 2022 and 2023.

The emissions exceedance for these three years isn't associated with any one project component or phase, but the combined overlap of several construction activities, including:

- export and import of soil (rather than staging some of the material for reuse) for the desalination facility site;
- removal of dredge material for the Local Project by barge to disposal site LA-2 located approximately 25 miles from the off-shore construction site;
- conservative assumptions regarding the number of pieces and type of equipment to be used (horsepower of engines), hours of operation and simultaneous use of equipment for construction of the three primary Project components.

Approximately 2/3 of the emissions in 2022 are due to the operation of marine vessels (primarily tug boats) including the assumption that all non-tug related vessels would remain Tier 2, even with mitigation incorporated.

Construction activities would vary in intensity throughout the year, however the air quality analysis uses maximum potential daily emissions for comparison with the SCAQMD thresholds. Therefore, on days within the years identified as exceeding SCAQMD thresholds (2022 and 2023) when less activities are being conducted, NOx emissions could be below the thresholds. Emissions on the average day would be less than reported herein.

The schedule and maximum daily equipment lists analyzed herein incorporate conservative assumptions regarding a number of sources of emissions especially daily haul trips, specific horse power of equipment, or the amount of equipment that will operate and the hours of operation of each piece of equipment. Hours per day of equipment operation as well as horse power of the equipment uses the CalEEMod defaults or was based on these defaults as that level of detail is not available. This is to provide the maximum flexibility for the Project construction as they develop the most productive construction schedule and accommodate delays or changes during the actual activities. If some of the conservative values could be replaced with more project specific values, the maximum daily emissions would be reduced and the number of days over the significance threshold would likely be substantially reduced. However, it is not anticipated that a more project specific analysis would reduce peak day emissions to less than significant levels.

Implementation of **Mitigation Measures AQ-1 through AQ-3** would lessen construction-related impacts by requiring compliance with fugitive dust emissions regulations and incorporating USEPA Tier 4 construction equipment (as detailed under the mitigation measure's below).[5] Even with the implementation of Mitigation Measure AQ-1 through AQ-3, impacts from construction emissions would exceed SCAQMD thresholds of significance, as identified in Table 5.2-10.

[5] Note that with the implementation of Tier 4 equipment, there is an increase in CO emissions and a decrease in the other pollutants.

TABLE 5.2-9
PROJECT MAXIMUM DAILY POLLUTANT CONSTRUCTION EMISSIONS BY YEAR (UNMITIGATED)

Emissions Source	Daily Pollutant Emissions (lbs/day)[1]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2021	7	83	44	<1	10	6
2022	45	**519**	318	77	36	21
2023	21	**292**	159	1	56	25
2024	16	**169**	131	<1	34	14
2025	35	93	105	<1	13	9
2026	30	49	58	<1	2	2
SCAQMD Construction Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Emissions Exceed Thresholds?	***No***	***Yes***	***No***	***No***	***No***	***No***

CO = carbon monoxide; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns
NOTES:
1. Emissions were calculated using CalEEMod, as recommended by the SCAQMD and discussed above.
2 Note that construction emissions are based on worst case assumptions regardless of the site being analyzed, specifically the demolition and excavation required for construction of the south site was used.
SOURCE: Appendix, 3 for assumptions used in this analysis.

TABLE 5.2-10
LOCAL PROJECT MAXIMUM DAILY POLLUTANT CONSTRUCTION EMISSIONS BY YEAR (MITIGATED)

Emissions Source	Daily Pollutant Emissions (lbs/day)[1, 2]					
	ROG	NO_X	CO	SO_X	PM_{10}	$PM_{2.5}$
2021	2	30	46	<1	8	4
2022	38	**344**	324	77	28	13
2023	11	**183**	191	1	25	9
2024	8	68	155	<1	15	6
2025	30	41	77	<1	10	3
2026	27	22	41	<1	6	2
SCAQMD Construction Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Mitigated Emissions Exceed Thresholds?	***No***	***Yes***	***No***	***No***	***No***	***No***

CO = carbon monoxide; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns

NOTES:
1 Emissions were calculated using CalEEMod, as recommended by the SCAQMD.
2 The reduction/credits for construction emission mitigations are based upon mitigation included in CalEEMod and as typically required by the SCAQMD through Rule 403 and other exhaust emissions reduction measures. The mitigation includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times 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 Tier 4 engines.
3 Note that construction emissions are based on worst case assumptions regardless of the site being analyzed, specifically the demolition and excavation required for construction of the south site was used.

SOURCE: Appendix 3, for assumptions used in this analysis.

Table 5.2-11 summarizes maximum daily emissions that could occur during construction of each component. Daily significance thresholds could be exceeded during peak day construction of the desalination facility and ocean intake and discharge facilities. The total represents the maximum potential mitigated emissions that could occur on site assuming the maximum phases of each occur on the same day

TABLE 5.2-11
LOCAL PROJECT MAXIMUM (2022) DAILY POLLUTANT CONSTRUCTION EMISSIONS BY PROJECT COMPONENT (MITIGATED)

	Daily Pollutant Emissions (lbs/day)[1]					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Ocean Water Desalination Facility	30	169	130	1	22	8
Screened Ocean Intake and Concentrate Discharge	32	194	237	77	9	7
Desalinated Water Conveyance Components	3	42	86	0	9	3
TOTAL	65	405	453	78	40	18
SCAQMD Construction Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Emissions Exceed Thresholds?	***No***	***Yes***	***No***	***No***	***No***	***No***

CO = carbon monoxide; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns
Notes:
1. Emissions were calculated using CalEEMod, as recommended by the SCAQMD and discussed above.
2 Note that construction emissions are based on worst case assumptions regardless of the site being analyzed, specifically the demolition and excavation required for construction of the south site was used.
SOURCE: Appendix 3, for assumptions used in this analysis.

Ocean Water Desalination Facility

Local Project construction emissions associated with the ocean water desalination facility emissions would occur in years 2021 through 2025; combined emissions from all Project components are presented in Table 5.2-9 and Table 5.2-10. Even with the implementation of Mitigation Measure AQ-1 through AQ-3, impacts from construction emissions would exceed regulatory thresholds and would therefore remain significant and unavoidable, as identified in Table 5.2-10.

Screened Ocean Intake and Concentrate Discharge

Local Project screened ocean intake and concentrate discharge construction emissions would occur primarily in 2022; combined emissions from all Project components in that year are presented in Table 5.2-9 and Table 5.2-10. Even with the implementation of Mitigation Measure AQ-1 through AQ-3, impacts from construction emissions would exceed regulatory thresholds and would therefore remain significant and unavoidable, as identified in Table 5.2-10.

Desalinated Water Conveyance Components

Local Project desalinated water conveyance components construction emissions would occur in 2023 and 2025; combined emissions from all Project components in those years are presented in Table 5.2-9 and Table 5.2-10. Even with the implementation of Mitigation Measure AQ-1

through AQ-3, impacts from daily construction emissions could exceed regulatory thresholds if conducted concurrently with either of the other components, and would therefore remain significant and unavoidable, as identified in Table 5.2-10.

Mitigation Measures:

Implement Mitigation Measures AQ-1 through AQ-3.

Local Project Significance Determination:

Significant and Unavoidable Impact.

Operational Impacts

Operational air emissions generally consist of mobile source emissions generated from Project-related traffic and from stationary source emissions generated indirectly from natural gas consumption. Project operation would emit pollutants primarily from energy consumption, mobile source emissions such as deliveries and employee trips, and area source emissions such as use of consumer products and re-application of architectural coatings for maintenance.

West Basin's on-road vehicle fleet complies with CARB's standard for particulate matter; refer to Table 5.2-1. Diesel truck engines that do not meet CARB limits are required to install particulate matter filters. The West Basin fleet is also required to comply with SCAQMD Rules 1191 (Clean On-Road Light- and Medium-Duty Public Fleet Vehicles) and 1196 (Clean On-Road Heavy-Duty Public Fleet Vehicles). As the new facilities would be implemented within West Basin's existing service area, Project maintenance activities would be part of West Basin's normal routine and would not significantly increase vehicle fleet operations.

Table 5.2-12 presents the anticipated emissions from natural gas consumption, worker commute trips, and area source emissions anticipated to occur at the desalination facility administration building.

TABLE 5.2-12
ADMINISTRATION BUILDING NATURAL GAS COMBUSTION EMISSIONS

	Pollutant (pounds/day)					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Maximum Daily Emissions	17	5	6	<1	1	1
SCAQMD Threshold	*55*	*55*	*550*	*150*	*150*	*55*
Is Threshold Exceeded? (Significant Impact?)	***No***	***No***	***No***	***No***	***No***	***No***

SOURCE: Appendix 3, for assumptions used in this analysis.

As described in the methodology section, the Project operations were modeled to determine maximum emissions associated with buildout of the Regional Project. Local Project operational emissions would occur from the same sources, however due to its smaller size and capacity, the daily emissions from operation of the Local Project would be less than those identified for the Regional Project. Table 5.2-12 indicates that at a Regional level, operational emissions would not exceed SCAQMD thresholds. Therefore, the reduced emissions associated with the Local Project

would also be less than the regulatory thresholds. As Local Project operational emissions would not exceed SCAQMD thresholds, impacts would be less than significant.

Ocean Water Desalination Facility - ESGS North and South Sites

Table 5.2-12 indicates that operational emissions would not exceed SCAQMD Thresholds. Therefore, impacts from the Local Project ocean water desalination facility would also be less than significant.

Screened Ocean Intake and Concentrate Discharge

Table 5.2-12 indicates that operational emissions of all components would not exceed SCAQMD Thresholds. Therefore, impacts from the Local Project screened ocean intake and concrete discharge activities would be less than significant.

Desalinated Water Conveyance Components

Table 5.2-12 indicates that operational emissions would not exceed SCAQMD Thresholds. Therefore, impacts from the Local Project desalination water conveyance components would be less than significant.

Mitigation Measures:

None Required.

Local Project Significance Determination:

Less Than Significant Impact.

Regional Project

Construction-Related Impacts

Construction-related air quality impacts are predicted to occur during grading and construction operations associated with Regional Project implementation. **Table 5.2-13** and **Table 5.2-14** present the anticipated maximum unmitigated and mitigated daily construction emissions by year. As described in more detail below, mitigation includes compliance with SCAQMD Rule 403 and mitigation for exhaust emissions includes the use of CARB Tier 4 certified engines as set forth in AQ-1 through AQ-3.

As noted in Section 3, West Basin has not established any partnership for the implementation of the Regional Project. Hence, it is uncertain when the Regional Project would start construction. However, for the purpose of this EIR, estimates assuming implementation would begin in 2026 were calculated to show a possible scenario of air emissions using emission factors for various construction equipment, vehicles, and vessels. The combined emissions are calculated to account for a possible worst-case day when portions of components are being constructed on the same day. As Indicated in Table 5.2-14, mitigated NO_x emissions would exceed SCAQMD thresholds during construction year 2026. As for the Local Project, the emissions exceedance isn't associated with any one component, but the combined daily overlaps of several construction activities.

As detailed under the Local Project analysis, it is possible that on days within the one year that SCAQMD thresholds are exceeded for NOx, when less activities are being conducted, emissions

may be below the threshold. Additionally, as for the Local Project (see summary for Local Project above), there is an added layer of conservatism incorporated into the analysis that, if Project specific details were known, could result in a reduction of the maximum daily emissions. However, it is not anticipated that a more Project specific analysis would reduce emissions to less than significant levels.

Implementation of Mitigation Measures AQ-1 through AQ-3 would lessen construction-related impacts by requiring compliance with fugitive dust emissions regulations and incorporating USEPA Tier 4 construction equipment (as detailed under the mitigation measure's below).[6] Even with the implementation of Mitigation Measure AQ-1 through AQ-3, impacts from construction emissions would exceed regulatory thresholds and would therefore remain significant and unavoidable, as identified in Table 5.2-14.

TABLE 5.2-13
REGIONAL PROJECT MAXIMUM DAILY POLLUTANT CONSTRUCTION EMISSIONS BY YEAR (UNMITIGATED)

	Daily Pollutant Emissions (lbs/day)[1]					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
2026	38	**430**	256	77	23	16
2027	39	**167**	131	<1	20	20
2028	10	**123**	80	<1	13	7
SCAQMD Construction Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Emissions Exceed Thresholds?	***No***	***Yes***	***No***	***No***	***No***	***No***

CO = carbon monoxide; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns
NOTES:
1. Emissions were calculated using CalEEMod, as recommended by the SCAQMD and discussed above.
2 Note that construction emissions are based on worst case assumptions regardless of the site being analyzed, specifically the demolition and excavation required for construction of the south site was used.
SOURCE: Appendix 3, for assumptions used in this analysis.

Table 5.2-15 summarizes maximum daily emissions that could occur during construction of each component. Daily significance thresholds could be exceeded during peak day construction of the desalination facility and ocean intake and discharge facilities. The total represents the maximum potential mitigated emissions that could occur on site assuming the maximum phases of each occur on the same day.

TABLE 5.2-14
REGIONAL PROJECT MAXIMUM DAILY POLLUTANT CONSTRUCTION EMISSIONS BY YEAR (MITIGATED)

	Daily Pollutant Emissions (lbs/day)[1, 2]					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
2026	34	**278**	258	77	17	9
2022	30	61	139	<1	15	5
2023	3	42	86	<1	9	3
SCAQMD Construction Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Mitigated Emissions Exceed Thresholds?	***No***	***Yes***	***No***	***No***	***No***	***No***

[6] Note that with the implementation of Tier 4 equipment, there is an increase in CO emissions and a decrease in the other pollutants.

TABLE 5.2-14
REGIONAL PROJECT MAXIMUM DAILY POLLUTANT CONSTRUCTION EMISSIONS BY YEAR (MITIGATED)

CO = carbon monoxide; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns
NOTES:
1 Emissions were calculated using CalEEMod, as recommended by the SCAQMD.
2 The reduction/credits for construction emission mitigations are based upon mitigation included in CalEEMod and as typically required by the SCAQMD through Rule 403 and other exhaust emissions reduction measures. The mitigation includes the following: properly maintain mobile and other construction equipment; replace ground cover in disturbed areas quickly; water exposed surfaces three times 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 Tier 4 engines.
3 Note that construction emissions are based on worst case assumptions regardless of the site being analyzed, specifically the demolition and excavation required for construction of the south site was used.
SOURCE: Appendix 3, for assumptions used in this analysis.

TABLE 5.2-15
REGIONAL PROJECT MAXIMUM (2022) DAILY POLLUTANT CONSTRUCTION EMISSIONS BY PROJECT COMPONENT (MITIGATED)

	Daily Pollutant Emissions (lbs/day)[1]					
Emissions Source	**ROG**	**NO_X**	**CO**	**SO_X**	**PM_{10}**	**$PM_{2.5}$**
Ocean Water Desalination Facility	26	98	58	<1	11	4
Screened Ocean Intake and Concentrate Discharge	30	**180**	200	77	5	5
Desalinated Water Conveyance Components	3	42	86	<1	9	3
TOTAL	60	**319**	344	77	36	13
SCAQMD Construction Thresholds	*75*	*100*	*550*	*150*	*150*	*55*
Emissions Exceed Thresholds?	***No***	***Yes***	***No***	***No***	***No***	***No***

CO = carbon monoxide; ROG = reactive organic gases; NO_X = nitrogen oxides; PM_{10} = particulate matter smaller than 10 microns; $PM_{2.5}$ = particulate matter smaller than 2.5 microns
NOTES:
1. Emissions were calculated using CalEEMod, as recommended by the SCAQMD and discussed above.
2 Note that construction emissions are based on worst case assumptions regardless of the site being analyzed, specifically the demolition and excavation required for construction of the south site was used.
SOURCE: Appendix 3, for assumptions used in this analysis.

Ocean Water Desalination Facility - ESGS North and South Sites

Regional Project ocean water desalination facility construction may occur concurrent with the other construction components. Regional Project construction emissions associated with the ocean water desalination facility (combined with other Project components) are presented in Table 5.2-13 and Table 5.2-14. As indicated in Table 5.2-14, mitigated Regional Project construction emissions would continue to exceed thresholds for NOx. As such, Regional Project construction emissions, with implementation of Mitigation Measures AQ-1 through AQ-3, would remain significant and unavoidable.

Screened Ocean Intake and Concentrate Discharge

Regional Project screened ocean intake and concentrate discharge construction would occur concurrent with the other construction components. Regional Project construction emissions associated with the ocean water desalination facility (combined with other Project components) are presented in Table 5.2-13 and Table 5.2-14. As indicated in Table 5.2-14, mitigated Regional Project construction emissions would continue to exceed thresholds for NOx. As such, Regional

Project construction emissions, with implementation of Mitigation Measures AQ-1 through AQ-3, would remain significant and unavoidable.

Desalinated Water Conveyance Components

Regional Project desalinated water conveyance components would occur concurrent with the other construction components. Regional Project construction emissions associated with the ocean water desalination facility (combined with other Project components) are presented in Table 5.2-13 and Table 5.2-14. As indicated in Table 5.2-14, mitigated Regional Project construction emissions would continue to exceed thresholds for NOx. As such, Regional Project construction emissions, with implementation of Mitigation Measures AQ-1 through AQ-3, would remain significant and unavoidable.

Mitigation Measures:

Implement Mitigation Measures AQ-1 through AQ-3.

Regional Project Significance Determination:

Significant and Unavoidable Impact.

Operational Impacts

As described in the methodology section, the Regional operations were modeled to determine maximum emissions associated with Project buildout. Table 5.2-12 indicates that at a Regional level, operational emissions would not exceed SCAQMD thresholds. Therefore, Regional Project operational emissions impacts would be less than significant.

Ocean Water Desalination Facility - ESGS North and South Sites

Table 5.2-12 indicates that total Regional Project (all components) operational emissions would not exceed SCAQMD Thresholds. Therefore, impacts from the ocean water desalination facility would be less than significant.

Screened Ocean Intake and Concentrate Discharge

Table 5.2-12 indicates that total Regional Project (all components) operational emissions would not exceed SCAQMD Thresholds. Therefore, impacts from the screened ocean intake and concentrate discharge component would be less than significant.

Desalinated Water Conveyance Components

Table 5.2-12 indicates that total Regional Project (all components) operational emissions would not exceed SCAQMD Thresholds. Therefore, impacts from the desalinated water conveyance component itself would be less than significant.

Mitigation Measures:

None Required.

Regional Project Significance Determination:

Less Than Significant Impact.

Mitigation Measures:

The following mitigation measures apply to both the Local and Regional Projects.

AQ-1: Prior to construction, West Basin 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 the following dust suppression techniques to prevent fugitive dust from creating a nuisance off-site and reduce construction-related fugitive dust impacts on nearby sensitive receptors:

- All active portions of the construction site shall be watered twice daily during daily construction activities, or as needed during wet weather, and when dust is observed migrating from the Project site to prevent excessive amounts of dust.
- Pave or apply water three times daily during daily construction activities or apply non-toxic soil stabilizers on all unpaved access roads, parking areas, and staging areas, during dry weather. More frequent watering shall occur if dust is observed migrating from the site during site disturbance.
- During dry weather, any on site stockpiles of debris, dirt, or other dusty material with five percent or greater silt contrast shall be enclosed, covered, 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 if 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 track-out 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 before departing the job site.
- Reroute construction trucks away from congested streets or sensitive receptor areas.
- Trucks associated with soil-hauling activities shall avoid residential streets and utilize designated truck routes to the extent feasible.

AQ-2: During construction, 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), (e)(4) as amended, regarding the prevention of such material spilling onto public streets and roads. Before grading, West Basin shall indicate on the applicable Grading Plan, Building Plans, and specifications how operations subject to these requirements will comply.

AQ-3: Prior to construction, the construction contractor shall provide evidence that the following measures will be implemented during construction:

- Provide temporary traffic controls such as a flag person, during all phases of construction to maintain smooth traffic flow.
- Provide dedicated turn lanes for movement of construction trucks and equipment on- and off-site.
- Improve traffic flow by signal synchronization, and ensure that all vehicles and equipment will be properly tuned and maintained according to manufacturers' specifications.
- Require the use of electricity from power poles rather than temporary diesel or gasoline powered generators, as feasible.
- Require the use of 2010 and newer diesel haul trucks (e.g., material delivery trucks and soil import/export) and if the lead agency determines that 2010 model year or newer diesel trucks cannot be obtained the lead agency shall use trucks that meet USEPA 2007 model year NO_X emissions requirements. Additionally, consider other measures such as incentives, phase-in schedules for clean trucks, etc. during the construction period.
- During Project construction, all internal combustion engines/construction equipment (including tug boats but excluding crew and bio-survey boats) operating on the Project site shall meet Tier 4 CARB/USEPA emission standards. If not already supplied with a factory equipped diesel particulate filter, all off-road diesel-powered construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emission reductions that are no less than what could be achieved by a Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations. In addition, construction equipment shall incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards. In the event that all off-road diesel-powered construction equipment cannot meet the Tier 4 engine certification, the applicant shall use alternative measures, which include, but would not be limited to, reduction in the number and/or horsepower rating of construction equipment, limiting the number of daily construction haul truck trips to and from the proposed Project, using cleaner vehicle fuel, and/or limiting the number of individual construction Project phases occurring simultaneously. The effectiveness of alternative measures must be demonstrated through future study with written findings supported by substantial evidence that is approved by the lead agency before use.

Cumulative Criteria Pollutants

Impact AQ 5.2-3: Would the Project result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland Project components for both the Local and Regional Projects. **Table 5.2-16** summarizes the impact significance conclusions.

TABLE 5.2-16
SUMMARY OF IMPACT AQ 5.2-3 CUMULATIVE CRITERIA POLLUTANTS

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact AQ 5.2-3: Impacts on cumulative criteria pollutants.			
Local Project			
Construction	SU	SU	SU
Operation	LTS	LTS	LTS
Regional Project			
Construction	SU	SU	SU
Operation	LTS	LTS	LTS

LTS = Less than Significant, no mitigation proposed
SU = Significant and Unavoidable impact, even after implementation of mitigation

Local Project

Construction-Related Impacts

The South Coast Air Basin, which includes the Project area, is classified as an extreme non-attainment area of the federal 8-hour NAAQS for O_3, a non-attainment area for the 24-hour NAAQS for PM10, and a serious non-attainment area for the NAAQS annual arithmetic mean for PM2.5 and nonattainment for the NAAQS 24-hour PM2.5. Therefore, with respect to this CEQA significance threshold, the question is whether or not the Project represents a cumulatively considerable impact to Basin non-attainment of ozone (through its precursors VOC and NOx), PM10 and PM2.5 standards.

Concerning the proposed Local Project's construction-related emissions and cumulative South Coast Air Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the AQMP. As such, the Local Project would comply with SCAQMD Rule 403 requirements and implement all feasible mitigation measures. Rule 403 requires that fugitive dust be controlled with the best available control measures in order to reduce dust so that it does not remain visible in the atmosphere beyond the property line of the construction site. In addition, the Local Project would comply with adopted AQMP emissions control measures.

As discussed under Impact AQ 5.2-2, Local Project construction would comply with SCAQMD rules and AQMP emissions control measures. Implementation of Mitigation Measures AQ-1 through AQ-3 would also minimize construction emissions. With implementation of these mitigation measures, Local Project construction emissions (including PM10, PM2.5, ROG) would be reduced to a less-than-significant level, however NOx would remain significant and unavoidable (refer to Table 5.2-10).

Ocean Water Desalination Facility - ESGS North and South Sites

Refer to the discussion under impact AQ 5.2-2. As discussed, even with implementation of mitigation measures AQ-1 through AQ-3, Local Project construction emissions impacts would remain significant and unavoidable (refer to Table 5.2-10).

Screened Ocean Intake and Concentrate Discharge

Refer to the discussion under impact AQ 5.2-2. As discussed, even with implementation of mitigation measures AQ-1 through AQ-3, Local Project construction emissions impacts would remain significant and unavoidable (refer to Table 5.2-10).

Desalinated Water Conveyance Components

Refer to the discussion under impact AQ 5.2-2. As discussed, even with implementation of mitigation measures AQ-1 through AQ-3, Local Project construction emissions impacts would remain significant and unavoidable (refer to Table 5.2-10).

Mitigation Measures:

Implement Mitigation Measures AQ-1 through AQ-3.

Local Project Significance Determination:

Significant and Unavoidable Impact.

Operational Impacts

As discussed under impact AQ 5.2-2, Local Project operations would not exceed SCAQMD thresholds and would not result in significant operational air quality impacts (refer to Table 5.2-12). Therefore, Local Project operational emissions impacts would be less than significant.

Ocean Water Desalination Facility - ESGS North and South Sites

As discussed under impact AQ 5.2-2, Local Project operations, including Local Project ocean water desalination facility operations, would not exceed SCAQMD operational thresholds and would not result in significant operational air quality impacts (refer to Table 5.2-12).

Screened Ocean Intake and Concentrate Discharge

As discussed under impact AQ 5.2-2, Local Project operations, including screened ocean intake and concentrate discharge activities, would not exceed SCAQMD operational thresholds and would not result in significant operational air quality impacts (refer to Table 5.2-12).

Desalinated Water Conveyance Components

As discussed under impact AQ 5.2-2, Local Project desalinated water conveyance components, would not exceed SCAQMD operational thresholds and would not result in significant operational air quality impacts (refer to Table 5.2-12).

Mitigation Measures:

None Required.

Determination:

Less Than Significant Impact.

Regional Project

Construction-Related Impacts

As discussed under Impact AQ 5.2-2, Local Project construction would comply with SCAQMD rules and AQMP emissions control measures. Implementation of Mitigation Measures AQ-1 through AQ-3 would also minimize construction emissions. With implementation of these mitigation measures, Local Project construction emissions (including PM10, PM2.5 ROG) would be reduced to a less than significant level, however NOx would remain significant and unavoidable (refer to Table 5.2-14).

Ocean Water Desalination Facility - ESGS North and South Sites

Refer to the discussion under impact AQ 5.2-2. As discussed, even with implementation of mitigation measures AQ-1 through AQ-3, Local Project construction emissions impacts would remain significant and unavoidable (refer to Table 5.2-14).

Screened Ocean Intake and Concentrate Discharge

Refer to the discussion under impact AQ 5.2-2. As discussed, even with implementation of mitigation measures AQ-1 through AQ-3, Local Project construction emissions impacts would remain significant and unavoidable (refer to Table 5.2-14).

Desalinated Water Conveyance Components

Refer to the discussion under impact AQ 5.2-2. As discussed, even with implementation of mitigation measures AQ-1 through AQ-3, Local Project construction emissions impacts would remain significant and unavoidable (refer to Table 5.2-14).

Mitigation Measures:

Implement Mitigation Measures AQ-1 through AQ-3.

Determination:

Significant and Unavoidable Impact.

Operational Impacts

As discussed under impact AQ 5.2-2, Local Project Operations would not exceed SCAQMD thresholds and would not result in significant operational air quality impacts (Refer to Table 5.2-12). Therefore, Local Project operational emissions impacts would be less than significant.

Ocean Water Desalination Facility - ESGS North and South Sites

As discussed under impact AQ 5.2-2, Local Project operations, including Local Project ocean water desalination facility operations, would not exceed SCAQMD operational thresholds and would not result in significant operational air quality impacts (refer to Table 5.2-12).

Screened Ocean Intake and Concentrate Discharge

As discussed under impact AQ 5.2-2, Local Project operations, including screened ocean intake and concentrate discharge activities, would not exceed SCAQMD operational thresholds and would not result in significant operational air quality impacts (refer to Table 5.2-12).

Desalinated Water Conveyance Components

As discussed under impact AQ 5.2-2, Local Project desalinated water conveyance components, would not exceed SCAQMD operational thresholds and would not result in significant operational air quality impacts (refer to Table 5.2-12).

Mitigation Measures:

None Required.

Determination:

Less Than Significant Impact.

Sensitive Receptors

Impact AQ 5.2-4: Would the Project expose sensitive receptors to substantial pollutant concentrations?

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

Sensitive receptors near the ocean water desalination facility Project site include the residences located approximately 130 feet to the south of the closest construction area within the ESGS. Additionally, various residences and sensitive receptors would be located adjacent to the proposed conveyance pipelines and pump stations. In order to identify impacts to sensitive receptors, the SCAQMD recommends addressing LSTs for construction and operations impacts (area sources only).

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 (SCAQMD 2008c). The LST methodology assists lead agencies in analyzing localized air quality impacts. The SCAQMD provides the LST screening lookup tables for one, two, and five-acre sites for the following pollutants: CO, NO_X, PM2.5, and PM10. 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. The Project is located within Sensitive Receptor Area (SRA) 3, Southwest Coastal LA County. Operational emissions were evaluated for a 5-acre site at 25 meters.

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland Project components for both the Local and Regional Projects. **Table 5.2-17** summarizes the impact significance conclusions.

TABLE 5.2-17
SUMMARY OF IMPACT AQ 5.2-4 SENSITIVE RECEPTORS

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact AQ 5.2-4: Impacts on sensitive receptors.			
Local Project			
Construction	LTSM	LTSM	LTSM
Operation	LTS	LTS	LTS
Regional Project			
Construction	LTSM	LTSM	LTSM
Operation	LTS	LTS	LTS

NOTES:
LTS = Less than Significant, no mitigation proposed
LTSM = Less than Significant impact with mitigation

Local Project

Construction-Related Impacts – Criteria Pollutants

Ocean Water Desalination Facility – ESGS North and South Sites

The closest sensitive receptors to the local Project ocean water desalination facility ESGS South Site are the residences located to the south. The desalination facility could be located as close as 100 feet to the closest residence.[7] It is noted that the ESGS north site is further away (770 feet) from the closest sensitive receptors to the south. Refer to Section 3.2, *Project Components*, for a description of the various advantages of the ESGS North and South Sites. **Table 5.2-18** indicates the unmitigated and mitigated construction-related emissions for NO_X, CO, PM10, and PM2.5 compared to the LSTS for SRA 3, Southwest Coastal LA County. It is noted that due to the location of the Project components, LST emissions associated with the construction of the onshore facilities for the ESGS were evaluated for a 5-acre site at 25 meters. Construction of offshore Project components were evaluated for a 5-acre site at 500 meters. Construction of the off-site conveyance pipeline were evaluated for a 1-acre site at 25 meters.

[7] This threshold evaluates the ocean water desalination facility's potential to expose sensitive receptors to substantial pollutant concentrations for the ESGS South Site only, as this siting option represents the worst-case scenario for construction-related impacts.

TABLE 5.2-18
LOCAL PROJECT CONSTRUCTION – LOCALIZED SIGNIFICANCE OF EMISSIONS

On Site Sources	Pollutant (Pounds/Day)			
	NO_x	CO	PM10	PM2.5
Maximum South Site Emissions				
Unmitigated On Site Emissions	102	82	5	5
Mitigated on Site Emissions	20	87	1	1
Localized Significance Threshold	*104*	*1,796*	*15*	*5*
Thresholds Exceeded?	***No***	***No***	***No***	***No***
Maximum Conveyance System Emissions				
Unmitigated On Site Emissions	94	69	4	4
Mitigated on Site Emissions	*12*	*76*	*<1*	*<1*
Localized Significance Threshold	*51*	*665*	*5*	*3*
Thresholds Exceeded?	***No***	***No***	***No***	***No***
Maximum Offshore Emissions				
Unmitigated On Site Emissions	344	238	12	12
Mitigated on Site Emissions	223	238	7	7
Localized Significance Threshold	*154*	*9,852*	*171*	*96*
Thresholds Exceeded?	***Yes***	***No***	***No***	***No***
Refined analysis for Offshore Emissions				
	ppm	*ppm*	*$\mu g/m^3$*	*$\mu g/m^3$*
Mitigated On Site Emissions	*0.10*	-	-	-
Localized Significance Threshold	*0.18*	-	-	-
Thresholds Exceeded?	***No***	**-**	**-**	**-**

NOTES:
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 $PM_{2.5}$ for the Source Receptor Area (SRA 3).
SOURCE: Appendix 3, for assumptions used in this analysis.

As shown in Table 5.2-18, Local Project ocean water desalination facility (ESGS South Site) construction emissions would not exceed the LSTS for NO_X, PM10, and PM2.5. As Local Project ocean water desalination facility construction would not expose sensitive receptors to substantial pollutant concentrations, impacts would be less than significant.

Screened Ocean Intake and Concentrate Discharge

As identified in Table 5.2-18, incorporation of Mitigation Measures AQ-1 through AQ-3 for Local Project emissions for the screened ocean intake and concentration discharge facilities would result in less than significant impacts.

Desalinated Water Conveyance Components

As identified in Table 5.2-18, incorporation of Mitigation Measures AQ-1 through AQ-3 for the Local Project emissions for the desalinated water conveyance components facilities would result in less than significant impacts.

Mitigation Measures:

Implement Mitigation Measures AQ-1 through AQ-3 for impacts to screened ocean intake and concentrate discharge and desalinated water conveyance components. No mitigation measures are required for impacts related to the ocean water desalination facility.

Local Project Significance Determination:

Less than Significant Impact with Mitigation Incorporated.

Construction-Related Impacts – Toxic Air Contaminants

If the Project would emit carcinogenic materials or TACs that exceed the maximum incremental increase in cancer risk of ten in one million or a cancer burden greater than 0.5 excess cancer cases (in areas with maximum incremental increase in risk of greater than or equal to 1 in 1 million) or an acute or chronic hazard index of 1.0, impacts to sensitive receptors would be significant. Construction-related cancer risk and acute/chronic hazards were estimated and compared to this threshold. The resulting health risk calculations were performed using a spreadsheet tool consistent with the OEHHA guidance. The spreadsheet tool incorporates the algorithms, equations, and a variable described above as well as in the OEHHA guidance, and incorporates the results of the AERMOD dispersion model.

The cancer risk from unmitigated DPM emissions from construction of the Local Project is estimated to result in a maximum unmitigated increase in carcinogenic risk of 51 in one million for the closest residential receptors south of the ESGS Site in the City of Manhattan Beach. The maximum impact for the ESGS South Site would occur at the residences adjacent to 45th Street east of The Strand. Maximum unmitigated incremental increase in carcinogenic risk of 6 in one million is identified for residential receptors associated with construction of the North Site. For construction of the conveyance pipeline that is outside the influence of emissions from the construction of the North or South Site, maximum unmitigated emissions are estimated to result in an increase in carcinogenic risk of 5 per million. The maximum impact for the North Site and the pipeline would occur north of El Segundo Boulevard and west of Standard Street. The closest schools to the pipeline are St. Anthony's Catholic School and El Segundo Middle School, the maximum unmitigated risk at these schools (assuming a conservative residential exposure[8]) are approximately 1 in one million for both sites. The closest school to the North and South Site is Grandview Elementary School which is over 4,000 feet from the South Site and therefore was not part of the receptor grid. However, at that distance it would be less than the risk measured furthest from the South Site which (using the residential exposure) ranges from approximately 1 to 2 in one million along the southeastern most border of the receptor grid. It should be noted that the calculated cancer risk conservatively assumes that exposure of sensitive receptors (residential uses) would not have any mitigation, such as mechanical filtration. As the maximum impact would be greater than the risk threshold of 10.0 in one million, impacts would be considered potentially significant.

8 The use of the residential risk values represents a more conservative risk because it includes the risk for children under the age of 2 which have a substantially higher breathing rate than that of school age children thus increasing the risk above that which would occur if only school age children were modeled.

Mitigation measures that require use of low emissions engines for construction equipment reduce the risk to acceptable levels below the standard threshold of 10 in a million. Incorporation of Mitigation Measures AQ-1 through AQ-3 would reduce carcinogenic exposures at the maximum impact receptor to approximately 7, 1, and 1 per one million respectively for the South Site, North Site, and unassociated conveyance pipeline construction. As the maximum mitigated impact would be below the risk threshold of 10.0 in one million, impacts would be mitigated to less than significant levels. Due to the nature of the emissions and some of the offshore equipment not being Tier 4, the maximum impacted receptor for the North site shifts between the unmitigated and mitigated scenarios. In the mitigated scenario, the maximum impacted receptor is located at the residences adjacent to 45th Street east of The Strand, near the maximum risk receptors for the South site.

The process of assessing health risks and impacts includes a degree of uncertainty. The level of uncertainty is dependent on the availability of data and the extent to which assumptions are relied upon in cases where the data are incomplete or unknown. All HRAs rely upon scientific studies in order to reduce the level of uncertainty; however, it is not possible to completely eliminate uncertainty from the analysis. Where assumptions are used to substitute for incomplete or unknown data, it is standard practice in performing HRAs to err on the side of health protection in order to avoid underestimating or underreporting the risk to the public by assessing risk on the most sensitive populations, such as children and the elderly. As shown, cancer risk for nearby sensitive receptors would be mitigated to below significance thresholds. These short-term emissions would not substantially contribute to a significant construction health risk. No residual emissions and corresponding individual cancer risk are anticipated after construction. Therefore, the proposed Project would result in a less than significant impact related to construction TAC emissions.

A health risk analysis is a cumulative analysis and therefore risk from the Local Project independent of the Regional Project is uninformative and understates the total risk. Therefore, the risk analysis includes the total combined risk for both the Local and Regional Projects. There is an additional level of conservatism in the analysis in that for the worst case risk assessment it was assumed that the Regional Project would occur directly after the completion of the Local Project. The further out the Regional Project would occur, the potential for risk would decrease as the impacts to receptors decrease as age increases. For example, risk for a child under 16 years old is greater than the risk for a child over 16. Therefore, depending on the timing of the Regional Project, the risks presented here may be greater than the actual risk to the off-site receptors. However, even if the Regional Project was delayed to the maximum extent or not completed at all, the maximum risk for the unmitigated Local Project at the South site would exceed the 10 in a million threshold (approximately 48 in one million) and therefore the mitigation would still be necessary. Mitigated risk for the South site for the Local Project only would still be approximately 7 in one million.

Potential non-cancer effects of chronic (i.e., long term) DPM exposures were evaluated using the Hazard Index approach as described in the OEHHA Guidance. A hazard index equal to or greater than 1.0 represents a significant chronic health hazard. Nearby off-site sensitive receptors would be exposed to a maximum chronic impacts that would equal 0.03 before mitigation and would not

exceed the threshold of 1.0. With implementation of Mitigation Measure AQ-1 through AQ-3 the chronic impact would be further reduced to 0.006.

Mitigation Measures:

Implement Mitigation Measures AQ-1 through AQ-3.

Local Project Significance Determination:

Less than Significant with Mitigation Incorporated.

Operational Impacts – Criteria Air Pollutants

Ocean Water Desalination Facility - ESGS North and South Sites

Operational emissions for the Local Project are minor. To evaluate risk to local receptors, the LST method was used. **Table 5.2-19** summarizes the construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the LST for SRA 3, Southwest Coastal LA County. Due to the location of the Project components, emissions associated with the operation of the onshore facilities for the ESGS were evaluated for a 5-acre site at 25 meters. As shown, localized operational emissions are substantially less than the localized significance thresholds. Impacts would be less than significant without mitigation.

TABLE 5.2-19
LOCAL PROJECT OPERATIONAL – LOCALIZED EMISSIONS

On Site Sources	Pollutant (Pounds/Day)			
	NO_x	CO	PM_{10}	$PM_{2.5}$
Maximum South Site Emissions				
Unmitigated Onsite Emissions	3	3	<1	<1
Localized Significance Threshold	*104*	*1,796*	*4*	*2*
Thresholds Exceeded?	***No***	***No***	***No***	***No***

NOTES:
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 $PM_{2.5}$ for the Source Receptor Area (SRA 3).
SOURCE: Appendix 3, for assumptions used in this analysis.

Screened Ocean Intake and Concentrate Discharge

There are no emissions sources for the screened ocean intake and concentrate discharge system that are not associated with the ESEG sites as analyzed above. Therefore, Local Project ocean water desalination facility operational impacts on sensitive receptors would have no impact.

Desalinated Water Conveyance Components

There are no emissions sources for the screened desalinated water conveyance components that are not associated with the ESEG sites as analyzed above. Therefore, Local Project desalinated water conveyance components operational impacts on sensitive receptors would have no impact.

Mitigation Measures:

None Required.

Local Project Significance Determination:

Less than Significant Impact.

Operational Impacts – Toxic Air Contaminants

Operational criteria emissions associated with the Local Project are low as summarized in Table 5.2-19. There are no identified TAC sources for the Local Project operations. Therefore, operational emissions would not contribute to health risks.

Mitigation Measures:

None Required.

Local Project Significance Determination:

Less than Significant Impact.

Operational Impacts – CO Hotspots

With respect to carbon monoxide hotspots, impacts would be considered significant if the Project would cause or contribute to an exceedance of the CAAQS 1-hour or 8-hour CO standards of 20 or 9.0 parts ppm, respectively, at an intersection or roadway within one-quarter mile of a sensitive receptor. As discussed in the Thresholds section, a screening level of 100,000 vehicles per day at any intersection is used to determine significance.

The Local Project would increase traffic along the localized roadways by up to 25 trips. While the roadways adjacent to the Project site have not done traffic counts, the 105 Freeway, just to the north of the Project, has an annual average daily traffic level of 66,000 vehicles per day. Even if every vehicle from the Project site accessed this segment of the freeway, total vehicles per day would still be well below the 100,000 vehicles per day screening level threshold. Thus, this comparison demonstrates that the Local Project would not contribute considerably to the formation of CO hotspots and no further CO analysis is required. The Project would result in less than significant impacts with respect to CO hotspots.

Mitigation Measures:

None Required.

Local Project Determination:

Less than Significant Impact.

Regional Project

Construction-Related Impacts – Criteria Pollutants

Ocean Water Desalination Facility– ESGS North and South Sites

The closest sensitive receptors to the Regional Project ocean water desalination facility ESGS South Site are the residences located to the south. The desalination facility could be located as close as 100 feet to the closest residence.[9] It is noted that the ESGS north site is further away (770

[9] This threshold evaluates the ocean water desalination facility's potential to expose sensitive receptors to substantial pollutant concentrations for the ESGS South Site only, as this siting option represents the worst-case scenario for construction-related impacts.

feet) from the closest sensitive receptors to the south. Refer to Section 3.2, *Project Components*, for a description of the various advantages of the ESGS North and South Sites. **Table 5.2-20** indicates the unmitigated and mitigated construction-related emissions for NO_X, CO, PM10, and PM2.5 compared to the LSTS for SRA 3, Southwest Coastal LA County. It is noted that due to the location of the Project components, LST emissions associated with the construction of the onshore facilities for the ESGS were evaluated for a 5-acre site at 25 meters. Construction of offshore Project components were evaluated for a 5-acre site at 500 meters. Construction of the off-site conveyance pipeline were evaluated for a 1-acre site at 25 meters.

TABLE 5.2-20
REGIONAL PROJECT CONSTRUCTION – LOCALIZED SIGNIFICANCE OF EMISSIONS

	Pollutant (Pounds/Day)			
On Site Sources	**NO_x**	**CO**	**PM10**	**PM2.5**
Maximum South Site Emissions				
Unmitigated On Site Emissions	47	33	4	3
Mitigated on Site Emissions	7	35	3	1
Localized Significance Threshold	*104*	*1,796*	*15*	*5*
Thresholds Exceeded?	***No***	***No***	***No***	***No***
Maximum Conveyance System Emissions				
Unmitigated On Site Emissions	94	69	8	5
Mitigated on Site Emissions	*12*	*76*	*4*	*2*
Localized Significance Threshold	*51*	*665*	*5*	*3*
Thresholds Exceeded?	***No***	***No***	***No***	***No***
Maximum Offshore Emissions				
Unmitigated On Site Emissions	517	358	18	18
Mitigated on Site Emissions	*112*	*119*	*3*	*3*
Localized Significance Threshold	*154*	*9,852*	*171*	*96*
Thresholds Exceeded?	***No***	***No***	***No***	***No***

NOTES:
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 $PM_{2.5}$ for the Source Receptor Area (SRA 3).
SOURCE: Appendix 3, for assumptions used in this analysis.

Screened Ocean Intake and Concentrate Discharge

As identified in Table 5.2-20, Local Project emissions for the screened ocean intake and concentration discharge facilities would result in less than significant impacts with the incorporation of Mitigation Measures AQ-1 through AQ-3.

Desalinated Water Conveyance Components

As identified in Table 5.2-20, Local Project emissions for the desalinated water conveyance components facilities would result in less than significant impacts with the incorporation of Mitigation Measures AQ-1 through AQ-3.

Mitigation Measures:

Implement Mitigation Measures AQ-1 through AQ-3.

Regional Project Determination:

Less than Significant Impact with Mitigation Incorporated.

Construction-Related Impacts – Toxic Air Contaminants

All Project Components

As discussed above, health risk is a cumulative analysis and therefore the discussion of risk for the Regional Project without inclusion of the Local Project would underestimate the total potential risk to the surrounding sensitive receptors. Incorporation of Mitigation Measures AQ-1 through AQ-3 would reduce total carcinogenic exposures to below standard thresholds of significance. Construction of the Regional Project would contribute to the long-term emissions associated with the Project and would therefore add to the cumulative emissions experienced during the lifetime of nearby residents. However, the Regional Project would not require substantial site preparation equipment for the durations needed for the Local Project. The emissions associated with the Regional Project would be substantially less than the Local Project. Mitigation Measures AQ-1 through AQ-3 requires West Basin to minimize emissions associated with construction to the extent feasible.

Potential non-cancer effects of chronic (i.e., long term) DPM exposures were evaluated using the Hazard Index approach as described in the OEHHA Guidance. Chronic non-cancer risk is based on annual emissions and therefore emissions from the Regional Project are compared to that of the Local Project and an independent significance finding is provided. A hazard index equal to or greater than 1.0 represents a significant chronic health hazard. As identified above, nearby off-site sensitive receptors would be exposed to a maximum chronic impact that would equal 0.03 before mitigation and would not exceed the threshold of 1.0. With implementation of Mitigation Measure AQ-1 through AQ-3 the chronic impact would be further reduced to 0.006. The emissions from any Regional Project construction sources would be 0.003 and 0.004 respectively. Therefore, Regional Project chronic impacts would be similar to the Local Project impacts and would be less than significant.

Mitigation Measures:

Implement Mitigation Measures AQ-1 through AQ-3.

Regional Project Significance Determination:

Less than Significant with Mitigation Incorporated.

Operational Impacts – Criteria Pollutants

Ocean Water Desalination Facility– ESGS North and South Sites

As discussed above, the closest sensitive receptor to the regional Project ocean water desalination facility are residences to the south. Table 5.2-12 indicates the construction-related emissions for NO_X, CO, PM_{10}, and $PM_{2.5}$ compared to the LSTs for SRA 3, Southwest Coastal LA County.

Regional Project emissions, as discussed previously, will be less than the Local Project emissions and therefore were not analyzed separately. As shown in Table 5.2-19, Regional Project operational emissions would not exceed the LSTs for NO_X, PM_{10}, and $PM_{2.5}$. As Local Project ocean water desalination facility operational would not expose sensitive receptors to substantial pollutant concentrations, impacts would be less than significant.

Screened Ocean Intake and Concentrate Discharge

There are no emissions sources for the screened ocean intake and concentrate discharge system that are not associated with the ESEG sites as analyzed above. Therefore, Local Project ocean water desalination facility operational impacts on sensitive receptors would have no impact.

Desalinated Water Conveyance Components

There are no emissions sources for the screened desalinated water conveyance components that are not associated with the ESEG sites as analyzed above. Therefore, Local Project desalinated water conveyance components operational impacts on sensitive receptors would have no impact.

Mitigation Measures:

None Required.

Determination:

Less than Significant Impact.

Operational Impacts – Toxic Air Contaminants

All Project Components

Operational criteria emissions associated with the Regional Project would be similar to the Local Project emissions summarized in Table 5.2-19. There are no identified TAC sources for the Regional Project operations. Therefore, operational emissions would not contribute to health risks.

Mitigation Measures:

None Required.

Regional Project Significance Determination:

Less than Significant Impact.

Operational Impacts – CO Hotspots

All Project Components

With respect to carbon monoxide hotspots, impacts would be considered significant if the Project would cause or contribute to an exceedance of the CAAQS 1-hour or 8-hour CO standards of 20

or 9.0 parts ppm, respectively, at an intersection or roadway within one-quarter mile of a sensitive receptor. As discussed in the Thresholds section, a screening level of 100,000 vehicles per day at any intersection is used to determine significance.

The Regional Project would increase traffic along the localized roadways by up to 32 daily trips. While the roadways adjacent to the Project site have not done traffic counts, the 105 Freeway, just to the north of the Project, has an annual average daily traffic level of 66,000 vehicles per day. Even if every vehicle from the Project site accessed this segment of the freeway, total vehicles per day would still be well below the 100,000 vehicle per day screening level threshold. Thus, this comparison demonstrates that the Regional Project would not contribute considerably to the formation of CO hotspots and no further CO analysis is required. The Project would result in less than significant impacts with respect to CO hotspots.

Mitigation Measures:

None Required.

Regional Project Significance Determination:

Less than Significant Impact.

Objectionable Odors

Impact AQ 5.2-5: Would the Project create objectionable odors affecting a substantial number of people?

The following analysis evaluates potential impacts associated with constructing and operating each of the three primary elements of the Project, including offshore, coastal, and inland Project components for both the Local and Regional Projects. **Table 5.2-21** summarizes the impact significance conclusions.

TABLE 5.2-21
SUMMARY OF IMPACT AQ 5.2-5 OBJECTIONABLE ODORS

	Ocean Water Desalination Facility	Offshore Intake and Discharge Facilities	Inland Conveyance Facilities
Impact AQ 5.2-5: Impacts on objectionable odors.			
Local Project			
Construction	LTS	LTS	LTS
Operation	LTS	LTS	LTS
Regional Project			
Construction	LTS	LTS	LTS
Operation	LTS	LTS	LTS

NOTE:
LTS = Less than Significant, no mitigation proposed

Local Project

Construction-Related Impacts

Ocean Water Desalination Facility – ESGS North and South Sites

Local Project ocean water desalination facility construction could generate detectable odors from heavy-duty equipment exhaust. Construction-related odors would be temporary, and cease upon construction completion. The closest sensitive receptors (residential uses) to the Local Project ocean water desalination facility are located approximately 100 feet away. These are residences on the south side of 45th Street, south of the ESGS South Site. Construction in the immediate vicinity of 45th Street would also be of relatively short duration, and odors would be typical of construction and grading projects, and regulated by the ARB and SCAQMD. The prevailing winds in this area (typically offshore toward the east) would also help to minimize construction-related odors reaching the El Porto community to the south. The ESGS North Site is further away (770 feet) from the closest sensitive receptors to the south. Because the Local Project ocean water desalination facility construction would not cause objectionable odors affecting a substantial number of people and would be of relatively limited duration and offset due to factors noted above, impacts are anticipated to be less than significant.

Screened Ocean Intake and Concentrate Discharge

Local Project screened ocean intake and concentrate discharge construction could generate detectable odors from heavy-duty equipment exhaust. Construction-related odors would be temporary and cease upon construction completion. The closest sensitive receptors (residential uses) to the local Project screened ocean intake and concentrate discharge site are 1902 feet; therefore, any construction-related odors would dissipate before impacting sensitive uses. As the local Project screened ocean intake and concentrate discharge construction would not cause objectionable odors affecting a substantial number of people, impacts would be less than significant.

Desalinated Water Conveyance Components

Local Project desalinated water conveyance components could generate detectable odors from heavy-duty equipment exhaust. The closest sensitive receptors to the local Project desalinated water conveyance components would be the residences located along the various pipeline alignments. However, it is noted that construction of desalinated water conveyance components would occur at a rate of approximately 300 to 500 feet per day (depending on location), thus preventing construction activities to occur near individual sensitive receptors for extended periods of time. Additionally, construction-related activities are temporary and odors would disperse rapidly. As local Project desalinated water conveyance components construction would not cause objectionable odors affecting a substantial number of people, impacts would be less than significant.

Mitigation Measures:

None Required.

Local Project Significance Determination:

Less than Significant Impact.

Operational Impacts

Examples of land uses and industrial operations that are commonly associated with odor complaints include agricultural uses, wastewater treatment plants, food processing facilities, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. In addition to the odor source, the distance between the sensitive receptor(s) and the odor source, as well as the local meteorological conditions, are considerations in the potential for a project to frequently expose the public to objectionable odors.

Ocean Water Desalination Facility - ESGS North and South Sites

Solids from local Project ocean water desalination facility operations would consist primarily of inorganic constituents (e.g., silt and iron compounds from the brine); therefore, the anticipated solids would not produce significant odors. As noted above regarding local Project construction, operational odors would be most relevant to the nearest sensitive receptors, south of the ESGS South Site in the El Porto community. Chemicals would be periodically required to remove biological growth and fouling in the desalination facility. However, the chemical storage and chemical feed facilities at wells would be closed systems and would include a chemical waste neutralization system and would be equipped with air filters/scrubbers as applicable, which would eliminate any odors. Therefore, local Project ocean water desalination facility operations are not anticipated to cause objectionable odors affecting a substantial number of people, and impacts would be less than significant.

Screened Ocean Intake and Concentrate Discharge

The local Project screened ocean intake and concentrate discharge operation would not involve any land uses or operations producing significant odors. Additionally, the screened ocean intake and concentrate discharge pipelines would be located largely underwater. Thus, local Project screened ocean intake and concentrate discharge operations would not cause objectionable odors affecting substantial numbers of people, and no impact would occur.

Desalinated Water Conveyance Components

The local Project desalinated water conveyance components operation would not involve any land uses or operations producing significant odors. Additionally, most desalinated water conveyance components would operate belowground. Thus, local Project desalinated water conveyance components operations would not cause objectionable odors affecting substantial numbers of people, and no impact would occur.

Mitigation Measures:

None Required.

Local Project Significance Determination:

Less than Significant Impact.

Regional Project

Construction-Related Impacts

Regional Project construction would not create objectionable odors affecting a substantial number of people, for similar reasons to those described above for the Local Project. Impacts would be less than significant.

Mitigation Measures:

None Required.

Regional Project Significance Determination:

Less than Significant Impact.

Operational Impacts

Ocean Water Desalination Facility - ESGS North and South Sites

Refer to the discussion above regarding local Project operational odors. Regional Project ocean water desalination facility operations would produce solids primarily consisting of inorganic constituents (e.g., silt and iron compounds from the brine); therefore, the anticipated solids would not produce any significant odors. Chemicals would be periodically required to remove biological growth and fouling in the desalination facility. However, the chemical storage and chemical feed facilities would be in closed systems, and would include a chemical waste neutralization system to eliminate any odors. Therefore, regional Project ocean water desalination facility operations would not cause objectionable odors affecting a substantial number of people, and impacts would be less than significant.

Screened Ocean Intake and Concentrate Discharge

Regional Project screened ocean intake and concentrate discharge operations would not cause objectionable odors affecting substantial numbers or people, and no impact would occur.

Desalinated Water Conveyance Components

Regional Project desalinated water conveyance components operations would not cause objectionable odors affecting substantial numbers of people and there is no impact would occur.

Mitigation Measures:

None Required.

Regional Project Significance Determination:

Less than Significant Impact.

5.2.5 Cumulative Impacts

Planned or future projects in the area could consist of many types of development projects ranging from residential/commercial/industrial developments, to projects related to the proposed desalination project.

Concurrent Project construction (Local Project and Regional Project) with other projects listed in Section 4.2, *Local and Regional Cumulative Development*, would contribute to construction-

related cumulative impacts. With respect to the Local Project's construction-related air quality emissions and cumulative South Coast Air Basin-wide conditions, the SCAQMD has developed strategies to reduce criteria pollutant emissions outlined in the 2016 AQMP. Based on SCAQMD rules, mandates and guidance, 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 cumulative construction projects throughout the South Coast Air Basin. With implementation of Mitigation Measures AQ-1 through AQ-3, total Project construction emissions impacts would remain Significant and Unavoidable with respect to NOx emissions and would add to cumulative emissions.

As discussed under Impact AQ 5.2-2, the Local Project and Regional Project operational emissions would not exceed the SCAQMD adopted operational thresholds. Adherence to SCAQMD and CARB rules and regulations would alleviate potential impacts related to cumulative conditions on a project-by-project basis. As the net Project emissions would not exceed SCAQMD thresholds, it would not represent a significant air quality impact and the Project's operational air emissions would not be cumulatively considerable.

See Section 4.3 *2016 RTP/SCS Buildout* for a discussion of cumulative impacts in the region. See also Section 6.2.3 Population Growth for a discussion of the Project's consistency with the 2016 RTP/SCS.

5.2.6 Significant Unavoidable Impacts

Significant and Unavoidable impacts have been identified with respect to construction-related NOx impacts. The following impacts would therefore result in significant and unavoidable impacts for construction related NOx emissions even with the inclusion of Mitigation Measures AQ-1 through AQ-3.

Impact AQ 5.2-2: Air Quality Standards

Construction-Related Impacts

Impact AQ 5.2-3: Cumulative Air Emissions

Cumulative Construction-Related Impacts

5.2.7 Sources Cited

California Air Resources Board (CARB), 2005. Air Quality and Land Use Handbook: A Community Health Perspective, 2005, https://www.arb.ca.gov/ch/handbook.pdf. Accessed December 2017.

California Air Resources Board (CARB), 2016. Ambient Air Quality Standards (5/4/16), http://www.arb.ca.gov/research/aaqs/aaqs2.pdf. Accessed December 2017

Google Earth 2018.

South Coast Air Quality Management District (SCAQMD), 1993. CEQA Air Quality Handbook (1993), http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/ceqa-air-quality-handbook-(1993). Accessed October 2017

South Coast Air Quality Management District (SCAQMD), 2003. Air Quality Management Plan. Available at: http://www.aqmd.gov/home/research/documents-reports/lead-agency-scaqmd-projects/aqmd-projects---year-2003/aqmp-2003. August 2003

South Coast Air Quality Management District (SCAQMD), 2006. Final Methodology to Calculate Particulate Matter (PM)2.5 and PM2.5 Significance Thresholds, (2006), http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/pm-2-5-significance-thresholds-and-calculation-methodology. Accessed October 2017

South Coast Air Quality Management District (SCAQMD), 2008a. Mates III Final Report. September. http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iii, Accessed May 2015.

South Coast Air Quality Management District (SCAQMD), 2008b. Multiple Air Toxics Exposure Study III Model Estimated Carcinogenic Risk. Accessed May 2015 http://www3.aqmd.gov/webappl/matesiii/

South Coast Air Quality Management District (SCAQMD), 2008c. Localized Significance Thresholds, (2003, revised 2008), http://www.aqmd.gov/home/regulations/ceqa/air-quality-analysis-handbook/localized-significance-thresholds. Accessed October 2017

South Coast Air Quality Management District (SCAQMD), 2015. Multiple Air Toxics Exposure Study in the South Coast Air Basin MATES IV. Available at http://www.aqmd.gov/home/air-quality/air-quality-studies/health-studies/mates-iv. November 1, 2015.

South Coast Air Quality Management District (SCAQMD), 2016a, Air Quality Management Plan (AQMP), Final 2016 AQMP, http://www.aqmd.gov/home/air-quality/clean-air-plans/air-quality-mgt-plan/final-2016-aqmp. Accessed November 2017.

South Coast Air Quality Management District (SCAQMD), 2016b, NAAQS/CAAQS and Attainment Status for South Coast Air Basin, http://www.aqmd.gov/docs/default-source/clean-air-plans/air-quality-management-plans/naaqs-caaqs-feb2016.pdf?sfvrsn=2. Accessed November 2017

South Coast Air Quality Management District (SCAQMD), 2018. *Historical Data By Year*. *http://www.aqmd.gov/home/air-quality/air-quality-data-studies/historical-data-by-year*. accessed January 2018.

The Weather Channel, 2018. “El Segundo, CA Weather”, http://www.weather.com/weather/monthly/l/USCA0341:1:US, accessed January 2018.

West Basin Municipal Water District (West Basin), 2016. *2015 Urban Water Management Plan*, June 2016.