

3.2 Air Quality

3.2.1 Section Summary

This section analyzes whether construction and operational activities associated with the Proposed Project may impact air quality or expose individuals to unacceptable levels of health risk.

Section 3.2, *Air Quality*, includes the following.

- A description of the existing air quality and meteorology within the Port of Los Angeles (Port).
- A discussion of regulations and policies regarding air quality that are applicable to the Proposed Project.
- A discussion of the analysis methodology.
- Potential impacts on air quality and human health risk associated with construction and operation of the Proposed Project and Alternatives.
- A description of each mitigation measure (MM-) proposed to reduce significant impacts, as applicable.
- Residual impacts after mitigation and significance under the California Environmental Quality Act (CEQA).

Key points of Section 3.2, *Air Quality*, include the following.

- The Proposed Project activities, emissions, and associated impacts on air quality and human health would be less than South Coast Air Quality Management District (SCAQMD) thresholds.
- Proposed Project emissions and associated impacts would be much lower and would not add substantially to impacts identified as significant in the *2009 San Pedro Waterfront (SPW) Environmental Impact Statement (EIS)/Environmental Impact Report (EIR) (2009 SPW EIS/EIR) (Port 2009)*.
- Mitigation measures identified in Section 3.2.5 would reduce Proposed Project emissions and associated impacts.
- The Proposed Project would not change the determinations of significance made in the *2009 SPW EIS/EIR* or *2016 Addendum to the San Pedro Waterfront Project Environmental Impact Report Statement/Environmental Impact Report for the San Pedro Public Market (SPPM) Project (2016 SPPM Addendum) (ICF 2016)* and residual impacts concluded to be significant in those documents would remain significant and unavoidable.
- Similarly, the Proposed Project would not change the determination of significance made in the *2009 SPW EIS/EIR* or *2016 SPPM Addendum* and residual impacts concluded to be less than significant in those documents would remain less than significant.

3.2.2 Introduction

The Proposed Project would implement modifications on 2.5 acres of the 6.4-acre Discovery Sea Amusement Area in the southern portion of the SPW Project site. Improvements would also be made to the 22-acre overflow parking lot at 208 E. 22nd Street.

This section describes the environmental and regulatory setting for air quality. It also describes impacts on air quality and human health that may result from implementation of the Proposed Project and provides mitigation measures, where feasible and appropriate.

3.2.3 Environmental Setting

The Project Site is located in the Harbor District of the City of Los Angeles (City) in the southwestern coastal area of the South Coast Air Basin (SCAB). The SCAB consists of the non-desert portions of Los Angeles, Riverside, and San Bernardino counties and all of Orange County. The air basin covers an area of approximately 15,500 square kilometers (6,000 square miles) and is bounded on the west by the Pacific Ocean; on the north and east by the San Gabriel, San Bernardino, and San Jacinto mountains; and on the south by the San Diego County line. This section describes existing air quality conditions in the project study area within the SCAB. Meteorological conditions have not changed since the time of the 2009 SPW EIS/EIR or the 2016 SPPM Addendum.

3.2.3.1 Existing Air Quality

Air pollutants are defined as two general types: (1) criteria pollutants, representing six pollutants for which the U.S. Environmental Protection Agency (EPA) and the California Air Resources Board (CARB) have set health- and welfare-protective national ambient air quality standards (NAAQS) and state ambient air quality standards (CAAQS), respectively; and (2) toxic air contaminants (TACs), which may lead to serious illness or increased mortality even when present at relatively low concentrations. Generally, TACs do not have ambient air quality standards. The three TACs that do have ambient air quality standards (i.e., lead, vinyl chloride, and hydrogen sulfide) would not be emitted from Proposed Project construction and operational activities. Criteria pollutants can affect both regional and localized air quality, whereas TACs are typically associated with localized effects. This section discusses criteria pollutants and TACs, describes the existing regional and local air quality, describes what constitutes odors, and identifies nearby sensitive receptors.

In addition, Section 3.2.2.2 *Criteria Pollutants and Air Monitoring* of the 2009 SPW EIS/EIR presents additional discussion of ultrafine particles (UFP), secondary formation of particulate matter less than 2.5 microns in diameter (PM_{2.5}), and atmospheric deposition. This information has not changed since the time of the 2009 SPW EIS/EIR and is not repeated in this section.

3.2.3.2 Criteria Pollutants

The six criteria pollutants subject to national and state standards are O₃, particulate matter less than 10 microns in diameter (PM₁₀), PM_{2.5}, carbon monoxide (CO), nitrogen dioxide (NO₂), and sulfur dioxide (SO₂).

Air quality at a given location can be described by the concentrations of criteria air pollutants in the atmosphere near ground level. The significance of a pollutant concentration is determined by comparing it to an appropriate NAAQS and/or CAAQS. These standards represent the allowable

atmospheric concentrations at which the public health and welfare are protected and include a reasonable margin of safety to protect the more sensitive individuals in the population.

3.2.3.3 Regional Air Quality

EPA, CARB, and local air districts classify an area as attainment, unclassified, or nonattainment depending on whether the monitored ambient air quality data show compliance, lack of data, or noncompliance with the ambient air quality standards. NAAQS and CAAQS are provided in Table 3.2-1. Table 3.2-2 summarizes the federal and state attainment status of criteria pollutants in the SCAB based on NAAQS and CAAQS.

Air quality within the SCAB has improved substantially since the inception of the South Coast Air Quality Management District's (SCAQMD) air pollutant monitoring in 1976. This improvement is due primarily to the implementation of stationary source emission-reduction strategies by the EPA, CARB, and SCAQMD and lower polluting on-road motor vehicles. This trend toward cleaner air has occurred despite continued population growth. For example, while the SCAB exceeded the 0.07 parts per million (ppm) national 8-hour O₃ standard on 233 days in 1977, the number of O₃ exceedance days was 130 in 2021 (CARB 2020a).

Of the six criteria pollutants with national and state standards, O₃ is unique because it is not directly emitted from project sources. Rather, O₃ is a secondary pollutant, formed from precursor pollutants volatile organic compounds (VOC) and nitrogen oxides (NO_x) which photochemically react to form O₃ in the presence of sunlight. As a result, unlike inert pollutants, O₃ levels usually peak several hours after the precursors are emitted and many miles downwind of the source.

Because of the complexity and uncertainty in predicting photochemical pollutant concentrations, O₃ impacts are indirectly addressed by comparing emissions of VOC and NO_x to daily emission thresholds set by SCAQMD, discussed in Section 3.2.4.3, *Thresholds of Significance*. Because some Proposed Project emission sources would be diesel-powered, diesel particulate matter (DPM) was also evaluated in this analysis. DPM is one of the components of ambient PM₁₀ and PM_{2.5}; it is classified as a TAC by CARB. DPM is therefore evaluated both as a criteria pollutant (as a component of PM₁₀ and PM_{2.5}) and as a TAC (for localized health impacts).

Table 3.2-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards	National Standards	Health Effects
O ₃	1-hour	0.09 ppm	–	Breathing difficulties, lung tissue damage
	8-hour ^a	0.070 ppm	0.070 ppm	
PM ₁₀	24-hour	50 µg/m ³	150 µg/m ³	Increased respiratory disease, lung damage, cancer, premature death
	Annual	20 µg/m ³	–	
PM _{2.5}	24-hour ^b	–	35 µg/m ³	Increased respiratory disease, lung damage, cancer, premature death
	Annual	12 µg/m ³	12 µg/m ³	
CO	1-hour	20 ppm	35 ppm	Chest pain in heart patients, headaches, reduced mental alertness
	8-hour	9.0 ppm	9 ppm	
NO ₂	1-hour	0.18 ppm	0.100 ppm ^c	Lung irritation and damage
	Annual	0.030 ppm	0.053 ppm	

Pollutant	Averaging Time	California Standards	National Standards	Health Effects
SO ₂	1-hour	0.25 ppm	0.075 ppm ^c	Increases lung disease and breathing problems for asthmatics
	3-hour	–	0.5 ppm	
	24-hour	0.04 ppm	–	

Source: CARB 2020a.

^a The federal 8-hour O₃ standard is based on the annual fourth-highest daily maximum 8-hour concentration, averaged over 3 years.

^b The federal 24-hour PM_{2.5} standard is based on the 3-year average of the 98th percentile of the daily values.

^c The federal 1-hour NO₂ and SO₂ standards are based on the 3-year average of the 98th and 99th percentiles of the annual distribution of daily maximum values, respectively.

CO = carbon monoxide; NO₂ = nitrogen dioxide; O₃ = ozone; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; ppm = parts per million; SO₂ = sulfur dioxide; µg/m³ = micrograms per cubic meter; “–” = no standards.

Table 3.2-2. South Coast Air Basin Attainment Status

Pollutant	Attainment Status	
	Federal	State
O ₃	Extreme Nonattainment	Nonattainment
PM ₁₀	Maintenance	Nonattainment
PM _{2.5}	Serious Nonattainment	Nonattainment
CO	Maintenance	Attainment
NO ₂	Maintenance	Attainment
SO ₂	Attainment	Attainment

Source: EPA 2023; CARB 2020b.

CO = carbon monoxide; NO₂ = nitrogen dioxide; O₃ = ozone; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; SO₂ = sulfur dioxide.

3.2.3.4 Local Air Quality

The Port operates several air monitoring stations, which collect ambient air pollutant and meteorological conditions within the Port region. The station most representative of the Proposed Project vicinity is the San Pedro Community Station, located within 0.5 mile of the Project site and proximal to the main shipping channel. The station is adjacent to the Promenade walkway along Harbor Drive, near the intersection of Harbor Boulevard and West 3rd Street and is representative of the air quality in the residential areas of San Pedro.

Air quality has improved for some pollutants since the 2009 SPW EIS/EIR. Table 3.2-3 shows the maximum pollutant concentrations measured at the San Pedro Station in the 2008–2009 monitoring period, the time of the 2009 SPW EIS/EIR. The table also presents maximum pollutant concentrations measured at the San Pedro Station from 2020 to 2022, the most recent 3-year period available (Port 2020, 2021a, 2022a). The table shows that while 1-hour O₃ and annual PM₁₀ did not change appreciably since 2008–2009, other pollutants decreased by varying amounts with annual NO₂ and annual PM_{2.5} showing the greatest decrease. Table 3.2-3 also shows that air quality at the monitoring station exceeded the state 1-hour O₃ standard in 1 year, the PM₁₀ state 24-hour standard in 2 of the 3 years, and the PM₁₀ state annual standard in all 3 years. All other national and state standards were met during this 3-year monitoring period.

Table 3.2-3. Maximum Pollutant Concentrations Measured at the San Pedro Monitoring Station

Pollutant	Averaging Period	National Standard	State Standard	Concentration ^a			
				May 2008–April 2009	May 2019–April 2020	May 2020–April 2021	May 2021–April 2022
O ₃ (ppm)	1-hour	–	0.09	0.081	–/0.073	–/0.101	–/0.065
	8-hour ^b	0.07	0.07	0.066	0.056/0.057	0.058/0.067	0.055/0.060
CO (ppm)	1-hour	35	20	5.2	1.9/1.9	1.7/1.7	6.9/6.9
	8-hour	9	9	1.5	1.4/1.4	1.4/1.4	1.3/1.3
NO ₂ (ppm)	1-hour ^c	0.100	0.180	–	0.07/0.073	0.065/0.073	0.059/0.059
	Annual	0.053	0.03	0.02	0.012/0.012	0.016/0.016	0.012/0.012
SO ₂ (ppm)	1-hour ^d	0.075	0.25	0.03 (annual)	0.031/0.028		0.013/0.006
	3-hour ^d	0.500	–	0.03 (annual)	0.022/–	/–	0.006/–
	24-hour	–	0.04	0.03 (annual)	–/0.009	/–	–/0.004
PM ₁₀ (µg/m ³) ^e	24-hour	150	50	–	69.1/69.1	70.6/70.6	44.6/44.6
	Annual	–	20	25.9	–/23.8	–/27.2	–/24.7
PM _{2.5} (µg/m ³) ^f	24-hour	35	–	–	16.7/–	21.8/–	18.4/–
	Annual	12	12	11.4	5.1/5.1	6.7/6.7	5.3/5.3

Source: Port 2009, 2020, 2021a, 2022a.

^a Exceedances of the standards are shown in bold. All reported values represent the highest recorded concentration during the year unless otherwise noted. NAAQS/CAAQS.

^b The monitored concentrations reported for the national 8-hour O₃ standard represent the 3-year average (including the reported year and the prior 2 years) of the 4th highest 8-hour concentration each year.

^c The monitored concentrations reported for the national 1-hour NO₂ standard represent the 3-year average (including the reported year and the prior 2 years) of the 98th percentile of the annual distribution of daily maximum 1-hour average concentrations.

^d The monitored concentrations reported for the national 1-hour SO₂ standard represent the 3-year average (including the reported year and the prior 2 years) of the 99th percentile of the annual distribution of daily maximum 1-hour average concentrations. The monitored concentrations reported for the national 3-hour SO₂ standard represent the second highest 3-hour average.

^e The 24-hour PM₁₀ NAAQS is attained when the number of days per calendar year with a 24-hour average concentration above the standard is equal to or less than one, not to be exceeded more than once per year, on average, over 3 years. PM₁₀ is not monitored at the San Pedro Station. The PM₁₀ concentrations in the table are from the Coastal Boundary Station.

^f The 24-hour PM_{2.5} NAAQS is attained when the 98th percentile of the daily average PM_{2.5} concentrations, averaged over 3 years, is equal to or less than the standard. The annual PM_{2.5} CAAQS is met when the annual average PM_{2.5} concentration is equal to or less than the standard.

In cases where monitored concentrations were not available for the San Pedro monitoring station, concentrations from the next closest monitoring station were used. CAAQS = California ambient air quality standards; CO = carbon monoxide; NAAQS = national ambient air quality standards NO₂ = nitrogen dioxide; O₃ = ozone; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; ppm = parts per million; SO₂ = sulfur dioxide; µg/m³ = micrograms per cubic meter; “–” = no standards.

3.2.3.5 Toxic Air Contaminants

TACs are airborne compounds that are known or suspected to cause adverse human health effects after long-term (i.e., chronic) and/or short-term (i.e., acute) exposure. Cancer risk is associated with chronic exposure to some TACs, and noncancer health effects can result from either chronic or acute exposure to various TACs. Examples of TAC sources in the SCAB include diesel- and gasoline-powered internal combustion engines in mobile sources; industrial processes and stationary sources, such as dry cleaners, gasoline stations, and paint and solvent operations; and stationary fossil fuel-burning combustion sources, such as power plants.

SCAQMD initiated the first urban toxic air pollution study, Multiple Air Toxics Exposure Study (MATES), MATES I in 1986; the analysis was limited due to the technology available at the time. Conducted in 1998, MATES II was the first MATES iteration to include a comprehensive monitoring program, an air toxics emissions inventory, and a modeling component. MATES III was conducted in 2004–2006 with MATES IV following in 2015. MATES V, the most recent study conducted in 2021 was developed using measurements during 2018 and 2019 and a comprehensive modeling analysis and emissions inventory based on 2018 data (SCAQMD 2021).

Like previous MATES, MATES V identified the San Pedro Bay Ports area as having the highest cancer risk in the SCAB, primarily due to the prevalence of diesel-powered sources. MATES V also concluded that cancer risk has continued to decline due to federal, state, and local regulations. MATES V showed that cancer risk in the SCAB decreased by approximately 40 percent since the MATES IV study and by 84 percent since MATES II. Much of this reduction has occurred at the San Pedro Bay Ports, reflecting emission reductions from port sources. In the Proposed Project area, cancer risk decreased from 1,470 per million reported in MATES IV to 638 per million reported in MATES V (SCAQMD 2021).

3.2.3.6 Odors

Odors are generally regarded as a nuisance rather than a health hazard. Manifestations of a person's reaction to odors can range from psychological (e.g., irritation, anger, anxiety) to physiological (e.g., circulatory and respiratory effects, nausea, vomiting, headache). The ability to detect odors varies considerably among the population and is subjective. People may have different reactions to the same odor. An odor that is offensive to one person may be acceptable to another. An unfamiliar odor is more easily detected and is more likely to cause complaints than a familiar one. A person can become desensitized to odors and recognition occurs with an alteration in the intensity. The occurrence and severity of odor impacts depends on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

3.2.3.7 Sensitive Receptors

Sensitive receptor groups include children and infants, pregnant women, the elderly, and the acutely and chronically ill. According to SCAQMD guidance, sensitive receptor locations typically include schools, hospitals, convalescent homes, child-care centers, and other locations where children, chronically ill individuals, or other sensitive persons could be regularly exposed. Sensitive individuals could also be present at any residence. The nearest sensitive receptors to the Proposed Project are residences in San Pedro, located approximately 300 meters to the west.

The nearest school is 15th Street Elementary School at 1527 S. Mesa Street, in San Pedro, approximately 0.5 mile west of the Project Site. The nearest hospital is Providence Little Company of Mary Medical Center at 1300 W. 7th Street, in San Pedro, approximately 1.6 miles northwest. The nearest convalescent home is the Harbor View House at 921 S. Beacon Street, in San Pedro, approximately 0.3 mile northwest. The nearest child-care center is the Rise and Shine WeeCare at 388 W. 15th Street, in San Pedro, approximately 0.5 mile west.

3.2.4 Regulatory Setting

Sources of air emissions in the SCAB are regulated by EPA, CARB, and SCAQMD. In addition, regional and local jurisdictions play a role in air quality management. This section provides a summary of existing rules, regulations, and policies that apply to the Proposed Project, but is not intended to present an all-inclusive listing of applicable requirements.

3.2.4.1 Federal Regulations

The Clean Air Act

The federal Clean Air Act (CAA) of 1963 and its subsequent amendments form the basis for the nation's air pollution control effort. EPA is responsible for implementing most aspects of the CAA. Basic elements of the act include NAAQS for major air pollutants, hazardous air pollutant standards, attainment plans, motor vehicle emission standards, stationary source emission standards and permits, acid rain control measures, stratospheric O₃ protection, and enforcement provisions.

The CAA delegates enforcement of the federal standards to the states. In California, CARB is responsible for enforcing air pollution regulations. CARB, in turn, delegates the responsibility of regulating stationary emission sources to local air agencies. In the SCAB, SCAQMD has this responsibility.

State Implementation Plan and Air Quality Management Plan

For areas that do not attain NAAQS, the CAA requires the preparation of a State Implementation Plan (SIP), detailing how the state will attain NAAQS within mandated timeframes. In response to this requirement, the SCAQMD develops the Air Quality Management Plan (AQMP), which is incorporated into the SIP. The AQMP is updated every several years in response to NAAQS revisions, EPA SIP disapprovals, and attainment demonstration changes; each AQMP builds on the prior AQMP. The AQMP is usually a collaborative effort between the SCAQMD, CARB and SCAG.

In October 2015, the EPA strengthened NAAQS for ground-level O₃, lowering the primary and secondary O₃ standard levels to 70 parts per billion (ppb). The SCAB is classified as an "extreme" nonattainment area for the 2015 O₃ NAAQS. The SCAQMD adopted the 2022 AQMP in December 2022 to address the requirements for meeting this standard by 2037 (SCAQMD 2022a). The 2022 AQMP strategies focus on NO_x reduction, a key pollutant in the formation of O₃, through the adoption of zero-emission technologies, low-NO_x technologies where zero-emission technologies are not available, federal actions, and incentive funding in environmental justice areas.

The SCAQMD adopted the 2016 AQMP in March 2017 (SCAQMD 2017a). It incorporated scientific and technological information, planning assumptions, and updated emission inventory methodologies

for various source categories. The 2016 AQMP includes the integrated strategies and measures needed to meet NAAQS and demonstrates how and when the SCAB plans to achieve attainment of the 1-hour and 8-hour O₃ NAAQS as well as the 24-hour and annual PM_{2.5} standards. The 2016 AQMP reported that although population in the SCAG region has increased by more than 20 percent since 1990, air quality has improved due to air quality control projects at the federal, state, and local levels. In particular, 8-hour O₃ levels have been reduced by more than 40 percent, 1-hour O₃ levels by close to 60 percent, and annual PM_{2.5} levels by close to 55 percent since 1990 (SCAQMD 2017a).

Previous AQMPs included the 2012 AQMP for the 24-hour PM_{2.5} standard, along with early action measures to meet the 8-hour O₃ standard (SCAQMD 2012).

Emission Standards for Off-Road Diesel Engines

EPA established a series of emission standards for new off-road diesel engines. Tier 1 standards were phased in from 1996 to 2000; Tier 2 standards were phased in from 2001 to 2006; Tier 3 standards were phased in from 2006 to 2008; and Tier 4 standards, which require add-on emission control equipment, were phased in from 2008 to 2015. For each Tier category, the phase-in schedule was driven by engine size. These standards apply to engine manufacturers and would not require specific action on the part of the Proposed Project.

Emission Standards for On-Road Trucks

To reduce PM, NO_x, and VOC from on-road heavy-duty diesel trucks, EPA established a series of progressively cleaner emission standards for new engines starting in 1988. These emission standards have been revised over time, with the latest major revision in December 2022 when the EPA finalized new emission standards for heavy-duty engines that will become effective in 2027. The standards are to some degree harmonized with the CARB low-NO_x rule, but are less stringent in terms of both emission limits and emission durability requirements. The NO_x limit is 0.035 grams per brake horsepower (HP)-hour, while the useful life period for heavy heavy-duty engines is 650,000 miles (DieselNet 2023a). These standards apply to vehicle manufacturers and would not require specific action on the part of the Proposed Project.

Emission Standards for Cars and Light-Duty Trucks

To reduce emissions from on-road cars and light-duty trucks, EPA established a series of progressively cleaner emission standards for new engines starting in 1991. Tier 1 standards were phased-in progressively between 1994 and 1997; Tier 2 standards were phased-in between 2004 to 2009; and Tier 3 standards are being phased-in between 2017 and 2025. During the phase-in period, manufacturers are required to certify an increasing percentage of their new vehicle fleet to the new standards, with the remaining vehicles still certified to the preceding tier of emission regulations (DieselNet 2023b). These standards apply to vehicle manufacturers and would not require specific action on the part of the Proposed Project.

Emission Standards for Marine Engines

To reduce emissions from marine engines, EPA established a series of progressively cleaner emission standards for new engines starting in 1999, with the latest regulation for Category 1 and 2 engines in 2008. The regulation introduced Tier 3 standards, phased in between 2009-2014, and Tier 4

standards, phased in between 2014 and 2017 (DieselNet 2023c). These standards apply to engine manufacturers and would not require specific action on the part of the Proposed Project.

3.2.4.2 State Regulations and Agreements

California Clean Air Act

In California, CARB is designated as the state agency responsible for all air quality regulations. CARB, which became part of the California Environmental Protection Agency in 1991, is responsible for implementing the requirements of the federal CAA, regulating emissions from motor vehicles and consumer products, and implementing the California Clean Air Act of 1988 (CCAA). The CCAA outlines a program to attain CAAQS for criteria pollutants. Since CAAQS are generally more stringent than NAAQS, attainment of CAAQS requires greater emission reductions than what is required to show attainment of NAAQS. Similar to the federal system, state requirements and compliance dates are based on the severity of the ambient air quality standard violation within a region.

Advanced Clean Truck Program

CARB developed and the Office of Administrative Law (OAL) approved the Advanced Clean Truck Program in 2021, which is intended to increase the penetration of zero-emission heavy-duty trucks into the market. A key feature is a zero-emission vehicle (ZEV) truck sales mandate that would begin in 2024 and increase to up to 75 percent ZEV by 2035 depending on truck gross vehicle weight rating (GVWR). This program applies to vehicle sales and would not require specific action on the part of the Proposed Project.

Advanced Clean Cars Program

CARB adopted and OAL approved the Advanced Clean Cars II regulations in 2022, imposing the next level of low-emission and zero-emission vehicle standards for vehicle model years 2026–2035. The program aims to help meet federal ambient air quality ozone standards and California’s carbon neutrality targets. A key feature is a ZEV passenger-car, truck, and sport-utility-vehicle sales mandate that would ramp up to 100-percent ZEV sales by 2035. This program applies to vehicle sales and would not require specific action on the part of the Proposed Project.

California Air Resources Board In-Use Off-Road Diesel-Fleets Regulation

CARB has regulated in-use off-road diesel vehicles since 2008 through the In-Use Off-Road Diesel-Fueled Fleets Regulation. The regulation requires vehicle fleets to reduce their emissions by retiring older vehicles and replacing the retired vehicles with newer vehicles, repowering older engines, or installing verified diesel emission control strategies in older engines; and by restricting the addition of older vehicles to fleets. The regulation also limits equipment idling (CARB 2023). The regulation would apply to off-road equipment during construction of the Proposed Project.

The regulation has been amended several times. In November 2022, CARB approved amendments to the regulation aimed at further reducing emissions from the off-road sector. The amendments phase-in, starting in 2024–2036, includes changes to enhance enforceability and encourage the adoption of

zero-emission technologies. The amendments were approved by California's OAL in August 2023 (CARB 2023).

California Air Resources Board In-Use California Harbor Craft Regulation

CARB has regulated in-use harbor craft since 2008 through the California Harbor Craft Regulation. The regulation was amended in 2010 and again in 2022 (CARB 2010, 2022). The 2010 regulation requires older harbor craft operators to reduce emissions by retiring or retrofitting older harbor craft and replacing the retired harbor craft with newer harbor craft. The 2022 amendments added and expanded requirements for emissions, reporting, fuel use, idling, and facility power. Starting in January 2024, all harbor craft are required to use renewable diesel and reduce idling to 15 minutes; tugboat engines are required to upgrade to Tier 4 diesel-particulate filters starting in January 2025 in accordance with a phase-in schedule specified by the regulation.

The regulation would apply to tugboats during the Proposed Project's firework events. This analysis conservatively does not take credit for potential emission reductions associated with the 2022 amendments because the amended regulation allows for numerous exemptions and extensions that may delay compliance. Instead, the analysis assumed compliance with CARB's regulation as adopted in 2010, prior to the 2022 revision.

California Air Resources Board Portable Diesel-Fueled Engines Air Toxic Control Measure

CARB adopted the Air Toxic Control Measure (ATCM) in 2004 to reduce DPM emissions from portable diesel-fueled engines. The rule requires fleets to reduce their emissions by retiring, replacing, or repowering older engines or installing exhaust retrofits. The rule also requires that owners meet DPM emission fleet averages that become more stringent in future years. The rule has been revised several times, with the latest revisions in 2018 (CARB 2018a). The regulation would apply to off-road equipment during construction of the Proposed Project.

Statewide Portable Equipment Registration Program

The Statewide Portable Equipment Registration Program (PERP) established a uniform program to regulate portable engines and portable engine-driven equipment units. Once registered in PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts as long as the equipment is located at a single location for no more than 12 months (CARB 2018b). PERP would apply to off-road equipment during construction of the Proposed Project.

Community Air Protection Program and AB617

In response to Assembly Bill (AB) 617 (C. Garcia, Chapter 136, Statutes of 2017), CARB established the Community Air Protection Program. The program's focus is to reduce exposure in communities most affected by air pollution. The program includes community air-monitoring and emissions-reduction programs, early actions to address localized air pollution through targeted incentive funding to deploy cleaner technologies in affected communities, and grants to support community participation in the AB 617 process. AB 617 also includes new requirements for accelerated retrofit

of pollution controls on industrial sources, increased penalty fees, and greater transparency and availability of air quality and emissions data, intended to help advance air pollution control efforts throughout the state (CARB 2018c). Although this is a state program, and as such does not have project-specific requirements, it is included here to highlight the state's efforts to continue to enhance air quality planning efforts and better integrate state-, community-, and regional-level programs.

California Fireworks Program

The Office of the State Fire Marshal (SFM) is the only fireworks-classification authority in California. Fireworks are classified through laboratory analysis, field examinations, and test firing of items. SFM regulates the use, handling, storage, and transportation of explosives. Local law-enforcement agencies track the location of storage magazines within their jurisdictions through a permit process. Fireworks regulations are codified in the California Health and Safety Code Sections 12500–12728. Fireworks regulations would apply to barge-based firework events during operation of the Proposed Project.

3.2.4.3 Local Rules and Regulations

SCAQMD is primarily responsible for planning, implementing, and enforcing federal and state ambient standards within the SCAB. As part of its planning responsibilities, SCAQMD prepares the AQMP based on the attainment status of the air basins within its jurisdiction. SCAQMD is also responsible for permitting and controlling stationary sources of criteria pollutant and TAC emissions as delegated by EPA.

Through the attainment planning process, SCAQMD develops the SCAQMD Rules and Regulations to regulate sources of air pollution in the SCAB. The SCAQMD rules applicable to the Proposed Project are listed below.

South Coast Air Quality Management District Rule 402 – Nuisance

This rule prohibits discharge of air contaminants or other materials that cause injury, detriment, nuisance, or annoyance to any considerable number of persons or to the public, or that endanger the comfort, repose, health, or safety of any such persons or the public, or that cause, or have a natural tendency to cause, injury or damage to business or property. This rule would apply to construction and operation of the Proposed Project.

South Coast Air Quality Management District Rule 403 – Fugitive Dust

The purpose of this rule is to control the amount of PM entrained in the atmosphere from human-made sources of fugitive dust. The rule prohibits visible emissions of fugitive dust from any active operation, open storage pile, or disturbed surface beyond the property line of an emissions source. This rule would apply to construction of the Proposed Project. Best available control technology (BACT) measures identified in the rule would be required to minimize fugitive dust emissions.

South Coast Air Quality Management District Rule 1110.2 – Emissions From Gaseous- and Liquid-Fueled Engines

The purpose of this rule is to control the amount of NO_x, VOCs, and CO from engines. The rule applies to engines greater than 50 hp and sets exhaust concentration limits, but exempts the use of

emergency standby engines that operate less than 200 hours per year (SCAQMD 2019a). The 200 hours per year limit would apply to operation of an emergency diesel generator during operation of the Proposed Project.

San Pedro Bay Ports Clean Air Action Plan

The Port, in conjunction with the Port of Long Beach and with the cooperation of SCAQMD, CARB, and EPA, adopted the *San Pedro Bay Ports Clean Air Action Plan* (CAAP) in 2006 (Ports of Los Angeles and Long Beach 2006), adopted an updated CAAP in 2010 (Ports of Los Angeles and Long Beach 2010), and in 2017 (Ports of Los Angeles and Long Beach 2017). The CAAP is a sweeping plan designed to reduce the health risks posed by air pollution from all port-related emissions sources, including ships, trains, trucks, terminal equipment, and harbor craft. In addition, a major goal of the CAAP is to ensure that port-related sources provide a “fair share” of regional emission reductions to enable the SCAB to attain national and state ambient air quality standards. The CAAP and CAAP updates apply to Port-wide sources and would not require specific action on the part of the Proposed Project.

Los Angeles Harbor District Sustainable Construction Guidelines

The Los Angeles Harbor District (LAHD) adopted the Sustainable Construction Guidelines (SCG) in 2008 and updated the SCG in 2009 (LAHD 2009). As part of LAHD’s overall environmental goals and CAAP strategies, any construction at the Port must follow the SCG. The guidelines reinforce and require sustainability measures under construction contracts, addressing a variety of emission sources that operate at the Port. In addition, the LAHD Construction Guidelines include best management practices (BMPs) based on CARB-verified BACT, designed to reduce air emissions from construction sources. The SCG would apply to all sources, such as construction equipment and construction trucks, associated with the Proposed Project.

3.2.5 Mitigation Measure Changes

The Subsequent Environmental Impact Report (SEIR) evaluates modifications to the previously approved Mitigation Monitoring and Reporting Program (MMRP) for the 2009 SPW EIS/EIR and the revised MMRP for the 2016 SPPM Addendum. These modifications are necessary to update previous mitigation measures to current regulatory standards or modify them based on their effectiveness and need. Mitigation measures proposed for modification are listed below for air quality. Proposed modifications to these mitigation measures are provided in ~~strike-out~~ and underline format.

MM-AQ-3: Fleet Modernization for On-Road Trucks During Construction.

This mitigation measure is being updated to reflect updated EPA on-road emissions standards. Therefore, this change is further decreasing impacts identified in the previous document.

MM-AQ-3: Fleet Modernization for On-Road Trucks During Construction.

1. Trucks hauling materials such as debris or fill will be fully covered while operating off Port property.
2. Idling will be restricted to a maximum of 5 minutes when not in use.
3. Tier Specifications:

From January 1, ~~2009~~2024, to December 31, ~~2011~~2026: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on site or to transport materials to and from the site ~~must contain an EPA 2004 engine model year or newer in order to comply with EPA 2004 on-road emission standards~~ will comply with 2012 emission standards, or newer, where available.

Post January 1, ~~2011~~2027: All on-road heavy duty diesel trucks with a GVWR of 19,500 pounds or greater used on site or to transport materials to and from the site shall comply with ~~2010~~2015 emission standards, or newer, where available.

A copy of each unit's certified EPA rating, BACT documentation, and CARB or SCAQMD operating permit shall be provided at the time of mobilization of each applicable unit of equipment.

Methodology

This measure will be incorporated into LAHD and ~~Developer~~ Tenant contract specifications for all construction work to reduce the impact of construction diesel emissions. The contractor(s) will submit an Environmental Compliance Plan for review and approval by LAHD prior to beginning of any construction activity. The contractor will adhere to these specifications and Compliance Plan throughout construction phases. Enforcement will include oversight by the LAHD project/construction manager or designated building inspectors to ensure compliance with contract specifications. ~~Construction equipment measures will be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists.~~

- ~~1. A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement;~~
- ~~2. A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available; and/or~~
- ~~3. A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.~~

Because this measure is proposed to be revised per the above discussion, the relevant language in the Proposed Project MMRP will be modified to reflect the proposed changes.

MM-AQ-4. Fleet Modernization for Construction Equipment.

This mitigation measure is being updated to remove reference of compliance dates that have passed. Therefore, this change is further decreasing impacts identified in the previous document.

MM-AQ-4. Fleet Modernization for Construction Equipment.

1. Construction equipment will incorporate, where feasible, emissions savings technology such as hybrid drives and specific fuel economy standards.
2. Idling will be restricted to a maximum of 5 minutes when not in use.
3. Tier Specifications:
 - ~~January 1, 2009, to December 31, 2011:~~ All offroad diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels, shall meet Tier 2 offroad emissions standards. In addition, all construction equipment shall be outfitted with the BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions reductions that are no less than what could be achieved by a Level 2 or Level 3 diesel emissions control strategy for a similarly sized engine as defined by CARB regulations.
 - ~~January 1, 2012, to December 31, 2014:~~ All offroad diesel-powered construction equipment greater than 50 hp, except derrick barges and marine vessels, shall meet Tier 3 offroad emissions standards. In addition, all construction equipment shall be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor shall achieve emissions 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.
 - Post January 1, 2025: All offroad diesel-powered construction equipment greater than 50 hp will meet the Tier 4 emission standards, where available. In addition, all construction equipment will be outfitted with BACT devices certified by CARB. Any emissions control device used by the contractor will achieve emissions 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.

A copy of each unit's certified tier specification, BACT documentation, and CARB or SCAQMD operating permit will be provided at the time of mobilization of each applicable unit of equipment.

The construction equipment measures will be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists.

- A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement;
- A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the Proposed Project, but the application process is not yet approved, or the application has been approved, but funds are not yet available; or
- A contractor has ordered a control device for a piece of equipment planned for use on the Proposed Project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease

controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease.

Because this measure is proposed to be revised per the above discussion, the relevant language in the Proposed Project MMRP will be modified to reflect the proposed changes.

MM-AQ-5. Fugitive Dust.

The Harbor Department is unaware of any measures that would allow for the emission reductions identified in the previous mitigation measure. This measure was revised to incorporate and require all feasible mitigation to reduce fugitive dust and report the known emission reductions associated with it.

MM-AQ-5. Fugitive Dust.

The calculation of fugitive dust (i.e., PM₁₀) from unmitigated Proposed Project earth-moving activities assumes a ~~75%~~ 61-percent reduction from uncontrolled levels to simulate rigorous watering of the site and use of other measures (listed below) to ensure Proposed Project compliance with SCAQMD Rule 403.

The construction contractor will apply for a SCAQMD Rule 403 Dust Control Permit.

The construction contractor will further reduce fugitive dust emissions to ~~90%~~ 74 percent from uncontrolled levels. The construction contractor will designate personnel to monitor the dust control program and to order increased watering or other dust control measures, as necessary, to ensure a ~~90%~~ 74-percent control level. Their duties will include holiday and weekend periods when work may not be in progress.

The following measures, at minimum, must be part of the contractor Rule 403 dust control plan:

- Active grading sites will be watered one additional time per day beyond that required by Rule 403;
- Contractors will apply approved nontoxic chemical soil stabilizers to all inactive construction areas or replace groundcover in disturbed areas;
- Construction contractors will provide temporary wind fencing around sites being graded or cleared;
- Trucks hauling dirt, sand, or gravel will be covered or will maintain at least 2 feet of freeboard in accordance with Section 23114 of the California Vehicle Code;
- Construction contractors will install wheel washers where vehicles enter and exit unpaved roads onto paved roads or wash off tires of vehicles and any equipment leaving the construction site;
- The grading contractor will suspend all soil disturbance activities when winds exceed 25 mph or when visible dust plumes emanate from a site; disturbed areas will be stabilized if construction is delayed;
- Trucks hauling materials such as debris or fill will be fully covered while operating off LAHD property;

- A construction relations officer will be appointed to act as a community liaison concerning onsite construction activity including resolution of issues related to PM₁₀ generation;
- All streets will be swept at least once a day using SCAQMD Rule 1186, 1186.1 certified street sweepers or roadway washing trucks if visible soil materials are carried to adjacent streets;
- Water or non-toxic soil stabilizer will be applied three times daily to all unpaved parking or staging areas or unpaved road surfaces;
- Roads and shoulders will be paved; and
- Water will be applied three times daily or as needed to areas where soil is disturbed.

Because this measure is proposed to be revised per the above discussion, the relevant language in the Proposed Project MMRP will be modified to reflect the proposed changes.

MM AQ-25: Recycling.

This mitigation measure is proposed to be removed because the implementation dates have passed and the measure is duplicative of another adopted mitigation measure, **MM PS-4: Comply with AB 939**, which also has mandatory recycling rates. Since certification of the 2009 SPW EIS/EIR, AB 341 was passed, requiring commercial businesses to separate recyclable materials from solid waste and subscribe to recycling services. Additionally, AB 341, which went into effect on July 1, 2012, requires all businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place, to be coordinated by the RecycLA program within the City. AB 341 also set forth a “policy goal of the state that not less than 75 percent of solid waste generated be source reduced, recycled, or composted by the year 2020.” Finally, the City’s *Green New Deal Sustainable City pLAN* (City of Los Angeles 2019) includes a target goal to increase landfill diversion rate to 90 percent by 2025, 95 percent by 2035, and 100 percent by 2050. Therefore, the original intent of the previously approved mitigation measure has been met with existing regulatory requirements and goals.

~~MM AQ-25: Recycling.~~

~~The terminal buildings shall achieve a minimum recycling rate of 40% by 2012 and 60% by 2015. Recycled materials shall include:~~

- ~~a. white and colored paper;~~
- ~~b. Post-it notes;~~
- ~~c. magazines;~~
- ~~d. newspaper;~~
- ~~e. file folders;~~
- ~~f. all envelopes, including those with plastic windows;~~
- ~~g. all cardboard boxes and cartons;~~
- ~~h. all metal and aluminum cans;~~
- ~~i. glass bottles and jars; and~~

~~j. all plastic bottles.~~

Because this measure is proposed to be removed per the above discussion, the relevant language in the Proposed Project MMRP will be modified to reflect this proposed removal.

MM AQ-27: Compact Fluorescent Light Bulbs.

This proposed modification would allow for the use of more energy-efficient light-emitting diode (LED) light bulbs instead of the now-obsolete compact fluorescent light bulbs.

Proposed modifications are shown below.

MM AQ-27: Compact Fluorescent Light-Emitting Diode (LED) Light Bulbs.

All ~~interior terminal~~ buildings and exterior lighting will use ~~compact fluorescent~~ LED light bulbs.

The 2009 SPW EIS/EIR MMRP specifies that this measure applies to LAHD during building construction. The Proposed Project will revise this mitigation measure to also apply to the ~~developer~~ Tenant.

MM AQ-28: Energy Audit.

This mitigation measure is proposed to be removed because the proposed buildings are anticipated to be compliant with the Port's Green Building Policy (Port 2007), which was certified by the Board of Harbor Commissioners in 2007. This policy is based on the Leadership in Energy and Environmental Design (LEED) Certification Rating System, and focuses on sustainability, energy efficiency, and water efficiency. This policy also requires LAHD to use energy and water efficiency elements on their construction projects.

In 2008, the City adopted Ordinance No. 179820, the first amendment to the Los Angeles Municipal Code, Chapter 1. Sections 16.10 and 16.11, which established the Green Building Program (City of Los Angeles 2008). The Green Building Program focuses on sustainable building practices and addresses five key areas: site; water efficiency; energy and atmosphere; materials and resources; and indoor environmental quality. In 2020, the 2019 California Green Building Standards Code (California Building Standards Commission 2019) and the 2019 Building Energy Efficiency Standards (California Energy Commission 2019) came into effect. The California Green Building Standards Code encourages sustainable construction practices for five main categories: planning and design; energy efficiency; water efficiency and conservation; material conservation and resource efficiency; and environmental quality. The Building Energy Efficiency Standards include updates to many key areas regarding energy efficiency of newly constructed and altered builds, including the introduction of photovoltaic into the prescriptive package. By complying with these policies, sustainability, energy efficiency, water efficiency and innovation is considered during building construction.

Additionally, Title XXIV of the California Code of Regulations (CCR) has been updated multiple times since this mitigation measure was created and includes additional requirements than the version that was in effect at the time of adoption. In 2019 the City's Green New Deal was released, which includes targets for carbon-neutral buildings and reduced energy consumption that would be followed, as applicable regulations are implemented. Current policies, plans, and design standards require more sustainable construction than was available at the time the 2009

SPW EIS/EIR MMRP was certified. Therefore, the original intent of the previous mitigation measure has been met through current design regulations and existing state and local ordinances, policies, and plans.

Therefore, the intent of the original mitigation measure is met with the implementation of state and local ordinances and policies.

MM-AQ-28: Energy Audit

~~The tenant shall conduct a third party energy audit every 5 years and install innovative power-saving technology where feasible, such as power factor correction systems and lighting power regulators. Such systems help maximize usable electric current and eliminate wasted electricity, thereby lowering overall electricity use.~~

Because this measure is proposed for removal per the above discussion, the relevant language in the Proposed Project MMRP will be modified to reflect this proposed removal.

3.2.6 Previous Mitigation Measures Applicable to the Proposed Project

The 2009 SPW EIS/EIR concluded that impacts on air quality and human health would be significant, and mitigation measures were included to reduce potential impacts. The 2016 SPPM Addendum incorporated mitigation measures from the 2009 SPW EIS/EIR that were considered applicable to the SPPM Project. Of the 30 mitigation measures identified in the 2009 SPW EIS/EIR, seven were considered applicable in the 2016 SPPM Addendum. Of the seven mitigation measures identified in the 2016 SPPM Addendum, six would be applicable to the Proposed Project and are discussed below. The 2009 SPW EIS/EIR MMRP can be found in Table 3.2-141 of the 2009 SPW EIS/EIR, and the 2016 SPPM Addendum MMRP can be found in Appendix B of the 2016 SPPM Addendum. The numbering system from the 2009 SPW EIS/EIR and 2016 SPPM Addendum has been retained for consistency and clarity.

The following mitigation measures, identified in the 2009 SPW EIS/EIR and 2016 SPPM Addendum, are applicable to the Proposed Project.

- **MM-AQ-3**, *Fleet Modernization for On-Road Trucks During Construction*
- **MM-AQ-4**, *Fleet Modernization for Construction Equipment*
- **MM-AQ-5**, *Fugitive Dust*
- **MM-AQ-6**, *Best Management Practices (BMPs)*
- **MM-AQ-7**, *General Mitigation Measures During Construction*
- **MM-AQ-8**, *Special Precautions Near Sensitive Sites*

In addition to mitigation measures identified above, **MM-AQ-25**, **MM-AQ-27**, and **MM-AQ-28** were identified as being applicable in the Proposed Project Initial Study (IS)/Notice of Preparation (NOP) under the Air Quality resource. These measures are discussed in Section 3.2.5, *Mitigation Measure Changes*, above. Finally, it is noted that **MM-AQ-1**, *Harbor Craft Standards*, does not apply to the Proposed Project because harbor craft would not be used during construction.

The following presents the full description of each mitigation measure identified above that was not discussed in the previous section, as certified in the 2009 SPW EIS/EIR and 2016 SPPM Addendum.

MM-AQ-6. Best Management Practices (BMPs).

The following types of measures are required on construction equipment (including on-road trucks).

1. Use diesel oxidation catalysts and catalyzed diesel particulate traps;
2. Maintain equipment according to manufacturers' specifications;
3. Restrict idling of construction equipment to a maximum of 5 minutes when not in use; and
4. Install high-pressure fuel injectors on construction equipment vehicles.

MM-AQ-7. General MM During Construction.

For any of the above mitigation measures (**MM-AQ-1** through **MM-AQ-6**), if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, the technology could replace the existing measure pending approval by LAHD.

MM-AQ-8. Special Precautions Near Sensitive Sites.

When construction activities are planned within 1,000 feet of sensitive receptors (defined as schools, playgrounds, day care centers, and hospitals), the construction contractor will notify each of these sites in writing at least 30 days before construction activities begin.

3.2.7 New Mitigation Measures Applicable to the Proposed Project

MM-AQ-31: Zero-Emission Shuttle Buses.

To the extent commercially available for rent, the Tenant shall use zero-emission shuttle buses from Port-owned parking lots to the Project Site during ticketed Amphitheater events.

This mitigation measure is based on Tenant-provided information regarding the inability to rent a zero-emission shuttle bus fleet in the local and greater Los Angeles area. The measure will require review of commercial availability annually, beginning 6 months prior to Amphitheater opening.

3.2.8 Methodology

The baseline for air quality is conditions that existed at the time the 2009 SPW EIS/EIR was certified and that are identified in Section 3.8.1, *Environmental Setting*, of that document. However, the way in which the 2009 SPW EIS/EIR and 2016 SPPM Addendum project impacts were categorized makes it challenging to identify contribution to air quality and human health from specific elements that would be affected by the Proposed Project. For these reasons, Proposed Project impacts were conservatively compared directly to significance thresholds without subtracting emissions associated with land uses existing at the time of the IS/NOP.

This section describes the calculation methodology used to quantify impacts on air quality and human health from construction and operation of the Proposed Project. The following sources of emissions were considered in the analysis.

- Construction Sources
 - Diesel construction equipment (e.g., engine exhaust)
 - Diesel construction vehicles (e.g., engine exhaust, tire wear, brake wear)
 - Worker vehicles (e.g., engine exhaust, tire wear, brake wear)
 - Road dust
 - Construction dust
 - Paving off-gas
- Operational Sources
 - Patron/visitor and worker vehicles (e.g., exhaust, tire wear, brake wear)
 - Other vehicles: Tractor trailer/rigs, delivery vehicles, and food trucks (e.g., exhaust, tire wear, brake wear)
 - Emergency diesel generator and natural gas use (e.g., heating, engine exhaust)
 - Diesel tugboats used to position firework barges (e.g., engine exhaust)
 - Firework displays

3.2.8.1 Construction

Construction activities would result in air pollutant emissions from: (1) fuel combustion in off-road construction equipment, construction vehicles, and worker vehicles; (2) fugitive dust from construction activities and from road dust; (3) vehicle brake and tire wear; and (4) architectural coating.

Construction of the Amphitheater and 208 E. 22nd Street Parking Lot is anticipated to begin in 2025 and take up to 15 months to complete; these construction activities would occur concurrently. Installation of a large Ferris wheel would occur following construction of the Amphitheater and the 208 E. 22nd Street Parking Lot.

Construction of the Amphitheater would include minor demolition of concrete and/or asphalt, minor grading, construction of underground utilities, concrete paving, and construction of small ancillary buildings. Construction of the 208 E. 22nd Street Parking Lot would include demolition of two to three small buildings, grading, and asphalt paving. A Ferris wheel would be constructed off site, transported in sections, and installed at the Project Site. Although a 100-foot-diameter Ferris wheel was analyzed in the 2016 SPPM Addendum, the Proposed Project proposed the installation and operation of a larger Ferris wheel, with a diameter of up to 175 feet. The installation of the larger Ferris wheel was therefore conservatively included in the analysis. Installation of the Ferris wheel would include construction of underground utilities, possibly pile driving, construction and erection of the structures, and concrete paving. Construction elements are discussed in detail in Chapter 2, *Existing Setting and Proposed Project Description*.

The construction schedule and equipment utilization are included in Appendix B, Table B1, *CalEEMod Output*. The actual construction schedule may differ from the one used in the analysis, depending on the requirements of the Proposed Project's construction contractor. Delay of construction activities would not likely result in higher emissions than what was analyzed because of the implementation of increasingly stringent regulatory requirements for construction equipment and the turnover to cleaner equipment in future years, as compared to the analysis.

The California Air Pollution Control Officers Association's (CAPCOA), California Emissions Estimator Model (CalEEMod), version 2022.1.1.28, was used to quantify emissions from proposed construction activities (CAPCOA 2024). The CalEEMod model is approved by the SCAQMD and well suited to many land-development projects. The model uses emission factors for off-road equipment and on-road vehicles from the CARB emissions inventory and calculates emissions associated with each construction phase; overlapping phases, if any, are added in calculating maximum daily emissions for each pollutant.

The construction schedule and equipment utilization provided by the project proponent and LAHD's Engineering Division were used as CalEEMod input. CalEEMod default values were used in instances where equipment utilization was unavailable from the project proponent or LAHD. Use of construction equipment with EPA Tier 4 off-road engines is required by LAHD's SCG. However, given that construction emissions are anticipated to be low, emissions were conservatively analyzed with an average fleet of construction equipment, which would likely reflect a mix of Tier 3 and Tier 4 engines, in the event that specialized equipment is unavailable within 200 miles or through a leasing agreement by the construction contractor. Construction emissions are presented in Section 3.2.6, *Previous Mitigation Measures Applicable to the Proposed Project*. CalEEMod output is provided in Appendix B, Table B1.

3.2.8.2 Operation

Emissions associated with operational activities were calculated based on the information provided by the project proponent and vehicle counts discussed in Section 3.8, *Transportation*. Emissions were calculated for a peak day. Table 3.2-4 summarizes operational emission sources and activities.

Table 3.2-4. Project Activity

Activity	Quantity	Units
<i>208 E. 22nd Street Parking Lot</i>		
Lot Size	18.1	Acres
Lot Spaces	2,600	Parking spaces
<i>Amphitheater and Amusement Attractions</i>		
Seats	6,200	Seats
Maximum Annual Events	100	Events/year
Maximum Firework Events	1	Event/day
Patron Vehicle Trips	4,512	One-way trips
Employee Vehicle Trips	388	One-way trips
Patron Vehicle Transit Distance	16.9	One-way miles
Employee Vehicle Transit Distance	9.3	One-way miles

Activity	Quantity	Units
Onsite Vehicle Transit Distance	0.25	One-way mile
Shuttle Buses	150	Vehicles/event
Shuttle-Bus Transit Distance	3	One-way miles
Tractor-Trailer Rigs	3	Vehicles/event
Tractor-Trailer Transit Distance	25	One-way miles
Food Trucks	12	Vehicles/event
Food Trucks Transit Distance	20	One-way miles
Natural Gas Use	750,000	Cubic feet/year
Electricity Use	1	Gigawatt-hour/year
Emergency Generator	500	Horsepower
Peak Day	0.5	Hour/day
Testing	200	Hours/year
Fireworks		
Barge-Based: Tugboats Used to Position Barge	2	Per event
Summer Pops-Sized Shows (Approximately 100 Pounds of Explosives)	25	Per year
Fireworks Duration Average	20	Minutes
Location: In-Water Exclusion Zone	1,000	Feet

Sources: Patron and employee trips and transit distances are discussed in Section 3.8, *Transportation*; natural gas, electricity use, emergency generator information, tractor trailer, food trucks trips, and transit distances were provided by the Project Proponent; shuttle bus trips and transit distance were provided by West Harbor Parking Management Plan 2023 (Jerrico 2023); all other information was provided as part of the Proposed Project description.

3.2.8.3 Emission Sources

Vehicles

Patrons/visitors and workers would use personal vehicles to transit to and from the venue; shuttle services would be available for patrons using offsite parking lots during events at the Amphitheater; tractor trailer rigs would be used to transport temporary seating and other equipment to and from the site; and food trucks would provide food during events. A small number of delivery trucks may be used to provide supplies, but these would be insubstantial in light of other vehicles. Vehicles would result in criteria pollutants and DPM from engine exhaust and in PM₁₀ and PM_{2.5} emissions from tire and brake wear.

Vehicle-engine exhaust, tire-wear, and brake-wear emissions were calculated by multiplying the vehicle miles traveled by pollutant-specific emission factors. Vehicle miles traveled by visitor and worker vehicles were calculated based on the number of vehicle trips and average transit distance discussed in Section 3.8, *Transportation*. The *number of vehicles* is the increase in vehicles due to the Proposed Project. It should be noted that vehicle trips associated with various components of the 2009 SPW EIS/EIR (e.g., commercial, retail, and restaurant patrons) were analyzed in the 2009 SPW EIS/EIR and are not included in the patron trips discussed as part of the Proposed Project. Vehicle miles traveled by other operational vehicles, such tractor trailer rigs and food trucks were calculated based on vehicle trips and average transit distance provided by the project proponent. Shuttle bus

information was provided in the *West Harbor Parking Management Plan* (Jerrico 2023). Table 3.2-4 summarizes vehicle trips and average transit distance.

Emission factors relate the amount of pollutants released into the atmosphere to a unit of activity or product. These factors are determined through scientific measurements and analysis, often based on comprehensive studies or databases that collect data from various sources. Emission factors associated with vehicle exhaust, tire wear, and brake wear were calculated using CARB's Emission Modeling for Air Quality Compliance (EMFAC) 2021 emissions inventory model (CARB 2021a). Emission factors were calculated by dividing the EMFAC total exhaust emissions by the EMFAC vehicle miles traveled. Emission factors are presented in Appendix B, Table B3, and EMFAC model output is presented in Table B4.

Road Dust

In addition to vehicle emissions discussed above, vehicles traveling on paved roadways would contribute to PM₁₀ and PM_{2.5} road dust emissions. Road dust emissions were calculated by multiplying the vehicle activity discussed above, by road dust emission factors for PM₁₀ and PM_{2.5}. Emission factors were calculated using CARB's methodology for entrained road travel (CARB 2021b). The CARB methodology correlates emissions with silt loading, average weight of vehicles on roadway, and the fraction of transit along roadways defined in the methodology. Appendix B, Table B5 shows the CARB equation used in calculating emission factors and identifies the silt loading used for onsite and offsite roadways.

Natural Gas Combustion

Natural gas would be used in concession operations and would result in criteria pollutant exhaust emissions. Annual emissions were calculated by multiplying the anticipated natural gas use by pollutant-specific emission factors. Annual natural gas use was provided by the project proponent and is presented in Table 3.2-4. Emission factors were obtained from SCAQMD's *Annual Emission Report Guidance* for external combustion equipment (SCAQMD 2022b) and are presented in Appendix B, Table B6. Peak daily emissions were calculated by dividing annual emissions by the number of annual concert events.

Emergency Generator

A 500-hp diesel generator would be used on site in the event of emergencies. Maintenance testing and incidental operation of the generator would result in exhaust emissions of criteria pollutants and DPM. Emissions were calculated by multiplying the generator rated power by activity, load factor, and pollutant-specific emission factors.

Activity reflects the SCAQMD Rule 1110.2 annual limit of 200 hours for emergency generators (SCAQMD 2019a). An engine load factor reflects that engines do not typically operate at their full power and is represented by the ratio of average power used during normal operations to maximum rated power. The load factor was obtained from *CalEEMod User Guide*, Appendix G (CAPCOA 2022). SCAQMD Rule 1110.2 requires that emergency generators comply with BACT, which, for 500-hp engines, is EPA Tier 3 standards (SCAQMD 2019b, 2023a). Emission factors therefore reflect an engine that meets EPA Tier 3 standards. Generator power and activity are summarized in Table 3.2-4. Load factor and emission factors are presented and referenced in Appendix B, Table B7.

Tugboats

Two tugboats would be used to position one fireworks barge during firework events. Fireworks would be launched from a single launch site, as described in the *Fireworks* section below. The analysis assumes all diesel tugboats, which are typical at the Port. The use of tugboats would result in emissions of criteria pollutants and DPM from engine exhaust. Emissions were calculated by multiplying the number of tugboat engines by engine activity, engine power, load factor, and pollutant-specific emission factors.

Tugboats typically operate two propulsion and two auxiliary engines. Although all engines do not always operate at the same time, the analysis conservatively assumed operation of both propulsion engines simultaneously for 2 hours for each firework event; this would be sufficient time to transport the barge to and from the launch location and to position the barge. Once the barge is in position, propulsion engines would be turned off. Both auxiliary engines were assumed to operate for 3 hours during each firework event: during barge transport, barge positioning, and during the time the barge is at the launch site. Tugboat activity is detailed in Appendix B, Table B8.

Engine power and load factors were obtained from the Port's 2021 *Emissions Inventory* and 2022 *Emissions Inventory Methodology Report* (Port 2021b, Port 2022b) and are detailed in Appendix B, Table B8.

Tugboat engines are subject to EPA engine emission standards. The analysis assumed the use of tugboats with Tier 3 engines, which are available at the Port. Emission factors for Tier 3 engines were obtained from EPA Exhaust Emission Standards (EPA 2020a) and are summarized in Appendix B, Table B8, and detailed in Table B9. CARB's Harbor Craft regulation, discussed in greater detail in Section 3.2.4.2, was revised in 2022 and requires cleaner upgrades and newer technology for in-use harbor craft to reduce engine exhaust emissions than what was assumed in the analysis (CARB 2022). Although CARB's revised regulatory requirements for harbor craft operating at the Port began in 2023, this analysis conservatively does not take credit for associated emission reductions because the amended regulation allows for numerous exemptions and extensions that may delay compliance. Instead, the analysis assumed compliance with CARB's regulation as adopted in 2010, prior to its 2022 revision.

Fireworks

The Proposed Project anticipates 25 firework events per year. Fireworks would be launched from a single launch site located approximately 1,000 feet south of Berths 47–48 in the Outer Harbor. Figure 3.2-1 shows the location of the proposed launch location.

Fireworks emissions can be divided into emissions that occur directly from the fireworks themselves and a biomass fraction, which are indirect emissions resulting from the incineration of materials made from paper and igniter material. The direct fireworks emissions are released at the top of the trajectory when the aerial shell explodes. This action is separated into a lift charge portion that occurs during initial lifting of the aerial firework followed by the release of the firework shell explosion near the top of the trajectory. The biomass (i.e., indirect) contribution is released near ground level.

Criteria and toxic pollutant emissions from proposed firework displays were calculated by scaling the analysis of firework displays in the *2017 San Diego Bay and Imperial Beach Oceanfront Fireworks Display Events Project EIR* (San Diego Unified Port District 2017). The San Diego Bay project

quantified criteria and toxic pollutant emissions from several different-sized firework displays. The closest type of display to the Proposed Project would be “Summer Pops” displays that use approximately 100 pounds of fireworks (San Diego Unified Port District 2017). Calculation details are presented in Appendix B, Table B12.

3.2.8.4 Health Impacts

The Tier II screening methodology from SCAQMD’s *Risk Assessment Procedures* (SCAQMD 2017b) was used to assess the potential health impacts from proposed firework displays and tugboats used to position the fireworks barge. SCAQMD’s screening methodology is a function of TAC emissions calculated per the above discussion, display frequency and duration, and distance to the nearest receptors. SCAQMD’s screening methodology is conservative, particularly in that it limits the exhaust release height to 14 feet above ground level, which results in a conservative analysis because a higher release height typically allows for greater dispersion and results in fewer impacts at ground level.

For example, the direct fireworks mass fraction is normally released at the top of the trajectory on explosion, and only the biomass contribution is released near ground level. Therefore, a release height of 14 feet represents a very conservative assumption because it does not consider dispersion of the emissions that would normally occur at the top of the trajectory. Similarly, tugboat exhaust, typically modeled at a release height of approximately 50 feet, was modeled in this analysis at a release height of only 14 feet. Finally, all tugboat emissions (e.g., transit, barge positioning) were modeled as if they would all occur at the fireworks launch site. This further contributes to a conservative analysis because transit emissions would not occur at the launch site and would be dispersed along the transit route. SCAQMD’s Tier II screening methodology output is presented in Appendix B, Tables B13 and B14.

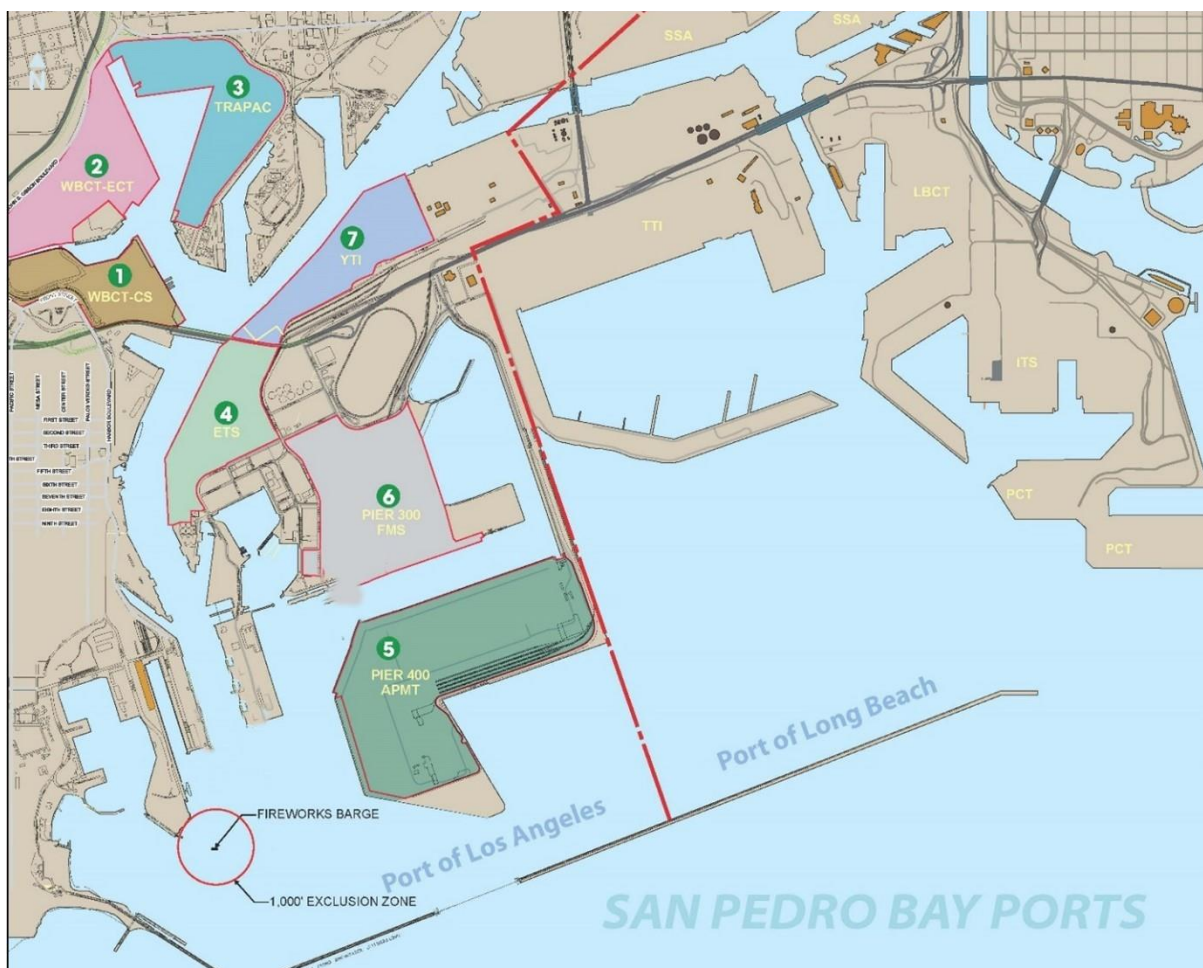


Figure 3.2-1. Fireworks Barge Location

3.2.9 Thresholds of Significance

CEQA Guidelines Appendix G (CCR Title 14, Division 6, Chapter 3, §§ 15000–15387) recommends that significance criteria established by the applicable air quality–management district or air pollution–control district be relied on to make determinations of significance and recommends consideration of the following in assessing impacts. Would the Proposed Project:

- Conflict with or obstruct implementation of the applicable air quality plan?
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is nonattainment under an applicable federal or state ambient air quality standard?
- Expose sensitive receptors to substantial pollutant concentrations?
- Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

The following criteria for determining the significance of impacts on air quality are based on the above considerations. Cumulative impacts are considered in Chapter 4. The significance thresholds

were developed by SCAQMD (1993, 2023b). The Proposed Project would have a significant impact related to air quality if it would result in the following.

- **AQ-1:** Would the Proposed Project result in new construction emissions that exceed the SCAQMD regional peak-daily emission thresholds of significance in Table 3.2-5 and/or increase the severity of impacts considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Table 3.2-5. South Coast Air Quality Management District Regional Construction Thresholds, Peak Daily Emissions (pounds/day)

Air Pollutant	Construction
NO _x	100
VOC	75
PM ₁₀	150
PM _{2.5}	55
SO _x	150
CO	550
Lead	3

Source: SCAQMD 2023b.

CO = carbon monoxide; NO_x = nitrogen oxides; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; SO_x = sulfuric oxides; VOC = volatile organic compounds.

- **AQ-2:** Would the Proposed Project result in ambient air pollutant concentrations from construction activities that exceed NAAQS or CAAQS and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

SCAQMD developed the Localized Significance Thresholds (LST) methodology to assist CEQA lead agencies in analyzing localized air quality impacts from proposed projects (SCAQMD 2009). The LST methodology is a screening methodology that allows users to determine, in lieu of conducting a dispersion modeling analysis, whether a project would cause or contribute to an exceedance of NAAQS or CAAQS for each source receptor area (SRA). The LST methodology is based on maximum day onsite emissions, the area of the emissions source, the ambient air quality in each SRA in which the emission source is located, and the distance to the nearest exposed individual. The LST is set up as a series of look-up tables for emissions of NO_x, CO, PM₁₀, and PM_{2.5}. If proposed onsite emissions are below the LST look-up table emission levels, then the proposed activity is considered not to violate or substantially contribute to an existing or projected air quality standard. SCAQMD's LST methodology was used in this analysis to evaluate ambient air quality impacts from the Proposed Project's onsite construction activities. Onsite emissions, per SCAQMD policy, were compared to the LSTs appropriate to the SRA, site acreage and distance to the nearest receptor (SCAQMD 2009).

The LST analysis for construction activities was based on daily activities occurring over a 2-acre area, with the closest residential receptor located approximately 300 meters to the west in San Pedro and the closest offsite worker receptor located approximately 55 meters to the west at the Los Angeles Marine Institute. LSTs are presented in Table 3.2-6.

Table 3.2-6. South Coast Air Quality Management District Localized Significance Construction Thresholds, Peak Daily Emissions (pounds/day)

Air Pollutant	Construction	
	Residential Receptor	Offsite Worker Receptor
PM ₁₀	70	–
PM _{2.5}	30	–
NO ₂	106	80
CO	2,869	1,158

Source: SCAQMD 2009.

Notes: Although residential receptors would be located approximately 300 meters from the site, the LSTs were conservatively chosen for a separation distance of 200 meters.

PM₁₀ and PM_{2.5} LSTs are relevant to sensitive receptors that are reasonably likely to be present at a particular location for 24 hours or more. Since offsite worker receptors are not expected to be present for this duration, LSTs for particulates do not apply to offsite worker receptors, per SCAQMD LST methodology.

CO = carbon monoxide; LST = Localized Significance Thresholds; NO₂ = nitrogen dioxide; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; SCAQMD = South Coast Air Quality Management District.

- **AQ-3:** Would the Proposed Project result in new operational emissions that exceed the SCAQMD regional peak daily emission thresholds of significance in Table 3.2-7 and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Table 3.2-7. South Coast Air Quality Management District Regional Thresholds, Operation, Peak Daily Emissions (pounds/day)

Air Pollutant	Operation
NO _x	55
VOC	55
PM ₁₀	150
PM _{2.5}	55
SO _x	150
CO	550
Lead	3

Source: SCAQMD 2023b.

CO = carbon monoxide; NO_x = nitrogen oxides; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; SO_x = sulfur oxides; VOC = volatile organic compounds.

- **AQ-4:** Would the Proposed Project result in ambient air pollutant concentrations from operational activities that exceed NAAQS or CAAQS and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Onsite emissions, per SCAQMD policy, were compared to the LSTs appropriate to the SRA, site acreage and distance to the nearest receptor (SCAQMD 2009). The LST analysis for operational activities was based on a 2-acre area, with the closest residential receptor located 300 meters to the west, but with the closest offsite worker receptor located approximately 100 meters to the south at Jankovich Fuel. Operational LSTs are presented in Table 3.2-8.

Table 3.2-8. South Coast Air Quality Management District Localized Significance Thresholds, Operation, Peak Daily Emissions (pounds/day)

Air Pollutant	Operation	
	Residential Receptor	Offsite Worker Receptor
PM ₁₀	17	–
PM _{2.5}	8	–
NO ₂	106	87
CO	2,869	1,611

Source: SCAQMD 2009.

Notes: Although residential receptors would be located approximately 300 meters from the site, the LSTs were conservatively chosen for a separation distance of 200 meters.

PM₁₀ and PM_{2.5} LSTs are relevant to sensitive receptors that are reasonably likely to be present at a particular location for 24 hours or more. Since offsite worker receptors are not expected to be present for this duration, LSTs for particulates do not apply to offsite worker receptors, per SCAQMD LST methodology.

CO = carbon monoxide; LST = Localized Significance Thresholds; NO₂ = nitrogen dioxide; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; SCAQMD = South Coast Air Quality Management District.

- **AQ-5:** Would the Proposed Project result in on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?
- **AQ-6:** Would the Proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Per SCAQMD’s CEQA thresholds (SCAQMD 2023b), a project would be considered significant if it would create an odor nuisance pursuant to SCAQMD Rule 402.

- **AQ-7:** Would the Proposed Project expose receptors to significant levels of TACs per the following SCAQMD thresholds and/or increase the severity of impact identified in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?
 - **Maximum Incremental Cancer Risk:** Greater than or equal to 10 in 1 million.
 - **Noncancer-Chronic Hazard Index:** Greater than or equal to 1.0.
 - **Noncancer-Acute Hazard Index:** Greater than or equal to 1.0.
 - **Cancer Burden:** Greater than 0.5 excess cancer cases in areas where the maximum incremental cancer risk for residential receptors is greater than 1 in one million.
- **AQ-8:** Would the Proposed Project conflict with or obstruct implementation of an applicable air quality plan and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Impact AQ-1. Would the Proposed Project result in new construction emissions that exceed the SCAQMD regional peak-daily emission thresholds of significance in Table 3.2-5 and/or increase the severity of impacts considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Summary of 2009 San Pedro Waterfront Project Environmental Impact Statement/Environmental Impact Report Findings

The 2009 SPW EIS/EIR determined that construction activities would exceed thresholds of significance for VOC, CO, NO_x, PM₁₀, and PM_{2.5} (2009 SPW EIS/EIR, Table 3.2-17). The 2009 SPW EIS/EIR concluded that although mitigation measures would reduce emissions, impacts would remain significant and unavoidable for VOC, CO, NO_x, PM₁₀, and PM_{2.5} (2009 SPW EIS/EIR, Table 3.2-19).

Summary of 2016 SPPM Addendum to the San Pedro Waterfront Project Environmental Impact Report for the San Pedro Public Market Project Findings

The 2016 SPPM Addendum determined that project activities would not result in new significant impacts, substantially increase the severity of previously analyzed impacts, or require new mitigation measures that had not already been evaluated in the 2009 SPW EIS/EIR. The 2016 SPPM Addendum concluded that the SPPM Project would not result in substantial change from findings in the 2009 SPW EIS/EIR.

Impacts of the Proposed Project

Construction activities associated with the Proposed Project would result in emissions from engine exhaust and fugitive dust. Table 3.2-9 summarizes regional peak daily emissions associated with construction of the Proposed Project and shows that all pollutant emissions would be below SCAQMD significance thresholds. In addition, construction emissions in Table 3.2-9 are substantially less than emissions calculated in the 2009 SPW EIS/EIR. Proposed Project emissions would be less than 1 percent of the 2009 SPW EIS/EIR emissions for NO_x, CO, and VOC and less than 2 percent for PM₁₀, PM_{2.5}, and SO_x. Therefore, the Proposed Project would not create a new impact or increase the severity of a previously identified impact.

Table 3.2-9. Peak Daily Construction Emissions (pounds/day)

Construction Activity	PM ₁₀	PM _{2.5}	NO _x	SO _x	CO	VOC
Venue – Amphitheater	4.8	2.3	19.8	0.0	19.6	3.9
Lot 22	9.1	3.8	47.2	0.2	36.5	3.5
Attraction – Ferris Wheel	1.2	0.6	14.8	0.0	19.7	3.9
Concurrent Venue and Lot 22	13.9	6.2	66.9	0.2	56.0	7.4
Threshold	150	55	100	150	550	75
Exceeds Threshold?	No	No	No	No	No	No

Source: Appendix B, Air Quality Supporting Tables.

Notes: Emissions may not add precisely due to rounding.

PM₁₀ and PM_{2.5} include both exhaust and dust emissions. On average, dust comprises approximately 80 percent of total PM₁₀ emissions and 59 percent of total PM_{2.5} emissions presented in the table.

CO = carbon monoxide; NO_x = nitrogen oxides; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; SO_x = sulfur oxides; VOC = volatile organic compounds.

Previous Mitigation Measures Applicable to the Proposed Project

MM-AQ-3 through MM-AQ-8 would be implemented during construction activities, as described in Section 3.2.5, *Mitigation Measure Changes*. However, given the low magnitude of construction emissions associated with the Proposed Project, these mitigation measures were not quantified.

New Mitigation Measures Applicable to the Proposed Project

No additional mitigation measures would be feasible.

Significance after Mitigation

MM-AQ-3 through MM-AQ-8, although not quantified for the Proposed Project, would be implemented and may reduce emissions. Proposed Project construction emissions would not exceed SCAQMD thresholds and would not result in any new significant impacts not previously considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum. The Proposed Project would add to impacts already deemed significant in the 2009 SPW EIS/EIR and 2016 SPPM Addendum, but would not substantially increase the severity of those impacts. Therefore, the Proposed Project would not create a new impact or substantial increase in the severity of a previously identified impact made in the 2009 SPW EIS/EIR or 2016 SPPM Addendum under **Impact AQ-1**, and residual impacts would remain significant and unavoidable.

Impact AQ-2. Would the Proposed Project result in ambient air pollutant concentrations from construction activities that exceed NAAQS or CAAQS and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Summary of 2009 San Pedro Waterfront Project Environmental Impact Statement/Environmental Impact Report Findings

The 2009 SPW EIS/EIR determined that construction activities would exceed thresholds of significance for the NO₂, PM₁₀, and PM_{2.5} ambient air standards (2009 SPW EIS/EIR, Table 3.2-20).

The 2009 SPW EIS/EIR concluded that although mitigation measures would reduce emissions, impacts would remain significant and unavoidable for the NO₂, PM₁₀, and PM_{2.5} ambient air standards (2009 SPW EIS/EIR, Table 3.2-21).

Summary of 2016 SPPM Addendum to the San Pedro Waterfront Project Environmental Impact Report for the San Pedro Public Market Project Findings

The 2016 SPPM Addendum determined that activities would not result in new significant impacts, substantially increase the severity of previously analyzed impacts, or require new mitigation measures that had not already been evaluated in the 2009 SPW EIS/EIR. The 2016 SPPM Addendum concluded that the SPPM Project would not result in substantial change from findings in the 2009 SPW EIS/EIR.

Impacts of the Proposed Project

Construction activities associated with the Proposed Project would result in emissions from engine exhaust and fugitive dust. Table 3.2-10 summarizes onsite peak daily emissions associated with construction of the Proposed Project and shows that all pollutant emissions would be substantially below SCAQMD's LSTs. In addition, as discussed under **Impact AQ-1**, construction emissions would be substantially less than emissions calculated in the 2009 SPW EIS/EIR. Therefore, the Proposed Project would not create a new impact or a substantial increase in the severity of a previously identified impact.

Table 3.2-10. Localized Peak Daily Construction Emissions (pounds/day)

Construction Activity	Residential Receptors				Occupational Receptors	
	PM ₁₀	PM _{2.5}	NO ₂	CO	NO ₂	CO
Venue – Amphitheater	3.5	2.0	15.4	16.2	15.4	16.2
Lot 22	4.9	2.6	29.7	28.3	29.7	28.3
Attraction – Ferris Wheel	0.5	0.5	14.3	16.1	14.3	16.1
Concurrent Venue and Lot 22	8.3	4.5	45.1	44.5	45.1	44.5
Threshold	70	30	106	2,869	80	1,158
Exceeds Threshold?	No	No	No	No	No	No

Source: Appendix B, Air Quality Supporting Tables.

Notes: PM₁₀ and PM_{2.5} include both exhaust and dust emissions. On average, dust comprises approximately 58% of total PM₁₀ emissions and 46% of total PM_{2.5} emissions presented in the table.

CO = carbon monoxide; NO₂ = nitrogen dioxide; NO_x = nitrogen oxides; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; SO_x = sulfur oxides; VOC = volatile organic compounds.

Previous Mitigation Measures Applicable to the Proposed Project

MM-AQ-3 through MM-AQ-8 would be implemented during construction activities, as described in Section 3.2.5. *Mitigation Measure Changes*. However, given the low magnitude of construction emissions associated with the Proposed Project, these mitigation measures were not quantified.

New Mitigation Measures Applicable to the Proposed Project

No additional mitigation measures would be feasible.

Significance after Mitigation

MM-AQ-3 through **MM-AQ-8**, although not quantified for the Proposed Project, would be implemented, and may further reduce emissions. Proposed Project construction emissions would not exceed SCAQMD's LSTs and would not result in any new significant impacts not previously considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum. The Proposed Project would add to impacts already deemed significant in the 2009 SPW EIS/EIR and 2016 SPPM Addendum, but would not substantially increase the severity of those impacts. Therefore, the Proposed Project would not create a new impact or increase the severity of a previously identified impact made in the 2009 SPW EIS/EIR or 2016 SPPM Addendum under **Impact AQ-2**, and residual impacts would remain significant and unavoidable.

Impact AQ-3. Would the Proposed Project result in new operational emissions that exceed the SCAQMD regional peak daily emission thresholds of significance in Table 3.2-7 and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Summary of 2009 San Pedro Waterfront Project Environmental Impact Statement/Environmental Impact Report Findings

The 2009 SPW EIS/EIR determined that operational activities would exceed thresholds of significance for VOC, CO, NO_x, SO_x, PM₁₀, and PM_{2.5} (2009 SPW EIS/EIR, Table 3.2-23). The 2009 SPW EIS/EIR concluded that although mitigation measures would reduce emissions, impacts would remain significant and unavoidable for NO_x, SO_x, PM₁₀, and PM_{2.5} (2009 SPW EIS/EIR, Table 3.2-8).

In addition, because construction and operational activities identified in the 2009 SPW EIS/EIR were anticipated to overlap, the 2009 SPW EIS/EIR also determined that overlapping construction and operational activities would exceed thresholds of significance for VOC, CO, NO_x, SO_x, PM₁₀, and PM_{2.5} (2009 SPW EIS/EIR Table 3.2-24). The 2009 SPW EIS/EIR concluded that although mitigation measures would reduce emissions, overlapping impacts would remain significant and unavoidable for VOC, CO, NO_x, SO_x, PM₁₀, and PM_{2.5} (2009 SPW EIS/EIR, Table 3.2-29).

Summary of 2016 SPPM Addendum to the San Pedro Waterfront Project Environmental Impact Report for the San Pedro Public Market Project Findings

The 2016 SPPM Addendum determined that activities would not result in new significant impacts, substantially increase the severity of previously analyzed impacts, or require new mitigation measures that had not already been evaluated in the 2009 SPW EIS/EIR. The 2016 SPPM Addendum did not identify mitigation measures required in the 2009 SPW EIS/EIR as applicable to operational activities

of the SPPM Project and concluded that the SPPM Project would not result in substantial change from findings in the 2009 SPW EIS/EIR.

Impacts of the Proposed Project

Operational activities associated with the Proposed Project would result in emissions from engine exhaust and fugitive dust. Table 3.2-11 summarizes the regional peak daily emissions associated with operation of the Proposed Project and shows that all pollutant emissions would be below SCAQMD significance thresholds. In addition, operational emissions in Table 3.2-11 are substantially less than emissions calculated in the 2009 SPW EIS/EIR. Proposed Project emissions would be less than 2 percent of the 2009 SPW EIS/EIR emissions for VOC, less than 7 percent for CO, less than 1 percent for PM₁₀, and less than 0.5 percent for NO_x, SO_x, PM_{2.5}. Therefore, the Proposed Project would not create a new impact or a substantial increase in the severity of a previously identified impact.

Table 3.2-11. Peak Daily Operational Emissions (pounds/day), Prior to Mitigation

	PM ₁₀	PM _{2.5}	NO _x	SO _x	CO	VOC
Patron and Worker Vehicles	15.1	3.0	14.4	0.5	206.7	21.1
Other Vehicles	0.6	0.2	3.8	0.0	84.0	0.1
Emergency Generator	0.1	0.1	1.9	0.0	1.1	0.1
Natural Gas Use	0.1	0.1	1.0	0.0	0.3	0.1
Tugboats	0.7	0.6	24.6	0.0	16.8	1.4
Fireworks Display	17.8	12.3	0.3	5.9	0.0	–
Total 2026	34.4	16.2	46.0	6.5	308.8	22.8
Threshold	150	55	55	150	550	55
Exceeds Threshold?	No	No	No	No	No	No

Source: Appendix B, Air Quality Supporting Tables

Notes: Emissions may not add precisely due to rounding.

PM₁₀ and PM_{2.5} include exhaust and dust emissions.

CO = carbon monoxide; NO₂ = nitrogen dioxide; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; SO_x = sulfur oxides; VOC = volatile organic compounds.

Previous Mitigation Measures Applicable to the Proposed Project

No applicable mitigation measures were identified.

New Mitigation Measures Applicable to the Proposed Project

MM-AQ-31: Zero-Emission Shuttle Buses.

To the extent commercially available for rent, the Tenant shall use zero-emission shuttle buses from Port-owned parking lots to the Project Site during ticketed amphitheater events.

Significance after Mitigation

Emission reductions associated with MM-AQ-31 were quantified and would reduce operational emissions. Table 3.2-12 presents operational emissions following application of MM-AQ-31 and

shows that emissions associated with the shuttle buses, included in the *Other Vehicles* category, would be reduced.

Table 3.2-12 also shows that the Proposed Project operational emissions would not exceed SCAQMD thresholds nor result in any new significant impacts not previously considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum. The Proposed Project would add to impacts already deemed significant in the 2009 SPW EIS/EIR and 2016 SPPM Addendum, but would not substantially increase the severity of those impacts. Therefore, the Proposed Project would not create a new impact nor increase the severity of a previously identified impact identified in the 2009 SPW EIS/EIR or 2016 SPPM Addendum under **Impact AQ-3**, and residual impacts would remain significant and unavoidable.

Table 3.2-12. Peak Daily Operational Emissions (pounds/day), With Mitigation

	PM ₁₀	PM _{2.5}	NO _x	SO _x	CO	VOC
Patron and Worker Vehicles	15.1	3.0	14.4	0.5	206.7	21.1
Other Vehicles	0.6	0.2	2.5	0.0	0.5	0.1
Emergency Generator	0.1	0.1	1.9	0.0	1.1	0.1
Natural Gas Use	0.1	0.1	1.0	0.0	0.3	0.1
Tugboats	0.7	0.6	24.6	0.0	16.8	1.4
Fireworks Display	17.8	12.3	0.3	5.9	0.0	–
Total 2026	34.4	16.2	44.6	6.5	225.3	22.7
Threshold	150	55	55	150	550	55
Exceeds Threshold?	No	No	No	No	No	No

Source: Appendix B, Air Quality Supporting Tables

Notes: Emissions may not add precisely due to rounding.

PM₁₀ and PM_{2.5} include exhaust and dust emissions.

CO = carbon monoxide; NO_x = nitrogen oxides; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; SO_x = sulfur oxides; VOC = volatile organic compounds.

Impact AQ-4. Would the Proposed Project result in ambient air pollutant concentrations from operational activities that exceed NAAQS or CAAQS and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Summary of 2009 San Pedro Waterfront Project Environmental Impact Statement/Environmental Impact Report Findings

The 2009 SPW EIS/EIR determined that operational activities would exceed thresholds of significance for the NO₂, PM₁₀, and PM_{2.5} ambient air standards (2009 SPW EIS/EIR, Tables 3.2-30 and 3.2-31). The 2009 SPW EIS/EIR concluded that although mitigation measures would reduce emissions, impacts would remain significant and unavoidable for the NO₂, PM₁₀, and PM_{2.5} ambient air standards (2009 SPW EIS/EIR, Tables 3.2-32 and 3.2-33).

Summary of 2016 SPPM Addendum to the San Pedro Waterfront Project Environmental Impact Report for the San Pedro Public Market Project Findings

The 2016 SPPM Addendum determined that activities would not result in new significant impacts, substantially increase the severity of previously analyzed impacts, or require new mitigation measures that had not already been evaluated in the 2009 SPW EIS/EIR. The 2016 SPPM Addendum did not identify mitigation measures required in the 2009 SPW EIS/EIR as applicable to operational activities of the SPPM Project and concluded that the SPPM Project would not result in substantial change from findings in the 2009 SPW EIS/EIR.

Impacts of the Proposed Project

Operational activities associated with the Proposed Project would result in emissions from engine exhaust and fugitive dust. Table 3.2-13 summarizes onsite peak daily emissions associated with operation of the Proposed Project and shows that all pollutant emissions would be substantially below SCAQMD's LSTs. In addition, as discussed in **Impact AQ-3**, Proposed Project operational emissions would be substantially less than emissions calculated in the 2009 SPW EIS/EIR. Therefore, the Proposed Project would not create a new impact or increase the severity of a previously identified impact.

Table 3.2-13. Localized Peak Daily Operational Emissions, Prior to Mitigation (pounds/day)

	Peak Daily Emissions Onsite					
	Residential Receptors				Offsite Worker Receptors	
	PM ₁₀	PM _{2.5}	NO ₂	CO	NO ₂	CO
Onsite Vehicle Transit	0.0	0.0	0.5	12.9	0.5	12.9
Emergency Generator	0.1	0.1	1.9	1.1	1.9	1.1
Natural Gas Use	0.1	0.1	1.0	0.3	1.0	0.3
Total Onsite Emissions	0.1	0.1	3.3	14.2	3.3	14.2
LST	17	8	106	2,869	87	1,611
Exceeds Threshold?	No	No	No	No	No	No

Source: Appendix B, Air Quality Supporting Tables

Notes: Emissions may not add precisely due to rounding.

LSTs apply to onsite emissions.

CO = carbon monoxide; LST = local significance threshold; NO₂ = nitrogen dioxide; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter.

Previous Mitigation Measures Applicable to the Proposed Project

No applicable mitigation measures were identified.

New Mitigation Measures Applicable to the Proposed Project

MM-AQ-31 would be implemented.

Significance after Mitigation

MM-AQ-31 was quantified and would reduce operational emissions. Table 3.2-14 presents operational emissions following application of **MM-AQ-31** and shows that emissions associated with the shuttle buses, included in the *Other Vehicles* category, would be reduced.

Table 3.2-14 also shows that the Proposed Project operational emissions would not exceed SCAQMD’s LSTs and would not result in any new significant impacts not previously considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum. The Proposed Project would add to impacts already deemed significant in the 2009 SPW EIS/EIR and 2016 SPPM Addendum, but would not substantially increase the severity of those impacts. Therefore, the Proposed Project would not create a new impact or increase the severity of a previously identified impact made in the 2009 SPP EIS/EIR under **Impact AQ-4**, and residual impacts would remain significant and unavoidable.

Table 3.2-14. Localized Peak Daily Operational Emissions (pounds/day), With Mitigation

	Peak Daily Emissions On Site					
	Residential Receptors				Offsite Worker Receptors	
	PM ₁₀	PM _{2.5}	NO ₂	CO	NO ₂	CO
Onsite Vehicle Transit	0.0	0.0	0.2	2.7	0.2	2.7
Emergency Generator	0.1	0.1	1.9	1.1	1.9	1.1
Natural Gas Use	0.1	0.1	1.0	0.3	1.0	0.3
Total Onsite Emissions	0.1	0.1	3.0	4.0	3.0	4.0
LST	17	8	106	2,869	87	1,611
Exceeds Threshold?	No	No	No	No	No	No

Source: Appendix B, Air Quality Supporting Tables

Notes: Emissions may not add precisely due to rounding.

PM₁₀ and PM_{2.5} include exhaust and dust emissions.

CO = carbon monoxide; LST = localized significance threshold; NO₂ = nitrogen dioxide; PM_{2.5} = particulate matter less than 2.5 microns in diameter; PM₁₀ = particulate matter less than 10 microns in diameter; SO_x = sulfur oxides; VOC = volatile organic compounds.

Impact AQ-5. Would the Proposed Project result in on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Projects that increase on-road traffic may have the potential to contribute to CO hot spots, defined as ambient CO concentrations associated with traffic emissions that exceed an ambient air quality standard in close proximity to a heavily traveled or congested intersection or roadway.

Summary of 2009 San Pedro Waterfront Project Environmental Impact Statement/Environmental Impact Report Findings

The 2009 SPW EIS/EIR conducted a CO hot spots analysis using California Line Source Dispersion Model 4 modeling and determined that motor-vehicle trips generated by the SPW Project would have a less-than-significant impact on ambient air quality for CO at intersections affected by the SPW

Project. The analysis showed that SPW Project elements would account for a fraction of the background ambient CO concentration. Despite increased activity in the area since the 2009 SPW EIS/EIR, background CO concentrations have on average decreased in the area, as noted in Table 3.2-3, except in the last available year of data, when the 1-hour CO concentration was higher than in past years, although still well below the CO CAAQS and NAAQS standards. The 2009 SPW EIS/EIR concluded that mitigation would not be required and that impacts would be less than significant.

Summary of 2016 SPPM Addendum to the San Pedro Waterfront Project Environmental Impact Report for the San Pedro Public Market Project Findings

The 2016 SPPM Addendum determined that activities would not result in new significant impacts, substantially increase the severity of previously analyzed impacts, or require new mitigation measures that had not already been evaluated in the 2009 SPW EIS/EIR. The 2016 SPPM Addendum concluded that the SPPM Project would not result in substantial change from findings in the 2009 SPW EIS/EIR.

Impacts of the Proposed Project

Vehicle trips associated with the Proposed Project would result in CO emissions at the intersections evaluated in Section 3.8 *Transportation*. The Proposed Project would generate approximately 5,000 daily 1-way vehicle trips, which would include approximately 4,500 patron trips, 388 worker trips, and trips by shuttle buses and other support vehicles. These trips would not occur at a single intersection, but would be spread out over the intersections identified in Section 3.8 *Transportation*.

The SCAQMD, in its *CO Redesignation Request and Maintenance Plan* (SCAQMD 2005), conducted a CO hot spot modeling analysis for the four most congested intersections in the Los Angeles region and found no exceedances of ambient air quality standards for CO, indicating that hotspots from CO emissions did not occur. The most congested intersection in Los Angeles County was estimated to experience a daily traffic volume of 100,000 vehicles per day. Because the study intersections for the Proposed Project would experience substantially lower traffic volumes than SCAQMD's study intersections, CO intersection modeling is not warranted. In addition, since vehicle emissions have improved since the time of SCAQMD's modeling analysis, it is reasonable to infer that vehicle trips associated with the Proposed Project also would not result in an exceedance of CO ambient air standards at intersections.

Previous Mitigation Measures Applicable to the Proposed Project

No applicable mitigation measures were identified.

New Mitigation Measures Applicable to the Proposed Project

No new mitigation measures are needed.

Significance after Mitigation

Proposed Project CO emissions would not result in new significant impacts not previously considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum. The Proposed Project would add to impacts identified as less than significant in the 2009 SPW EIS/EIR and 2016 SPPM Addendum, but would

not substantially increase the severity of those impacts. The Proposed Project would not create a new impact or increase the severity of a previously identified impact made in the 2009 SPW EIS/EIR or 2016 SPPM Addendum under **Impact AQ-5**, and residual impacts would remain less than significant.

Impact AQ-6. Would the Proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

Projects that use diesel and gasoline fuels may have the potential to generate odors. Some individuals may feel that diesel and gasoline emissions are objectionable. The Proposed Project would be considered significant if it would result in odors that would adversely affect a substantial number of people by creating a nuisance under SCAQMD Rule 402 and/or increase the severity of impacts considered in the 2009 SPW EIS/EIR and 2016 SPPM Addendum.

Summary of 2009 San Pedro Waterfront Project Environmental Impact Statement/Environmental Impact Report Findings

The 2009 SPW EIS/EIR determined that the SPW Project would not result in odors that would adversely affect a substantial number of people and concluded that impacts from construction and operational activities would be less than significant without mitigation.

Summary of 2016 SPPM Addendum to the San Pedro Waterfront Project Environmental Impact Report for the San Pedro Public Market Project Findings

The 2016 SPPM Addendum determined that activities would not result in new significant impacts, substantially increase the severity of previously analyzed impacts, or require new mitigation measures that had not already been evaluated in the 2009 SPW EIS/EIR. The 2016 SPPM Addendum concluded that the SPPM Project would not result in substantial change from findings in the 2009 SPW EIS/EIR.

Impacts of the Proposed Project

Emissions and associated odors associated with Proposed Project construction activities would be dispersed over the construction site and would be short-term and transient. Operation of the Proposed Project would be recreational and would not involve agriculture, heavy industrial processes, or other uses identified SCAQMD's *CEQA Air Quality Handbook* (1993) as having the potential for substantial odors. Emissions associated with operational vehicles, in particular the patron vehicles that would comprise the majority of Proposed Project emissions, would be dispersed over roadways. Emissions associated with fireworks would occur for a short duration of up to 20 minutes and up to 25 times per year.

Previous Mitigation Measures Applicable to the Proposed Project

No applicable mitigation measures were identified.

New Mitigation Measures Applicable to the Proposed Project

No new mitigation measures are needed.

Significance after Mitigation

The Proposed Project would not result in odors that would adversely affect a substantial number of people, would not be expected to create a nuisance as defined in SCAQMD Rule 402. Proposed Project construction and operation would not result in new significant impacts not considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum. The Proposed Project would add to impacts identified as less than significant in the 2009 SPW EIS/EIR and 2016 SPPM Addendum, but would not substantially increase the severity of those impacts. Therefore, the Proposed Project would not create a new impact or increase the severity of a previously identified impact made in the 2009 SPW EIS/EIR or 2016 SPPM Addendum under **Impact AQ-6**, and residual impacts would remain less than significant.

Impact AQ-7. Would the Proposed Project expose receptors to significant levels of TACs per the following SCAQMD thresholds and/or increase the severity of impact identified in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

TACs are compounds that are known or suspected to cause adverse carcinogenic or non-carcinogenic human health effects after short-term (i.e., acute) or long-term (i.e., chronic) exposure. Health effects from carcinogenic TACs are described in terms of individual cancer risk, which is based on a 30-year lifetime exposure to TACs. Individual cancer risk represents the chance that a person would contract cancer resulting from long-term exposure to the TACs of concern. A non-cancer chronic hazard index represents the potential for non-cancer health impacts resulting from long-term exposure to TACs. An acute non-cancer hazard index represents the potential for non-cancer health impacts resulting from a short-term (i.e., 1-hour) exposure to TACs.

Projects that use diesel and gasoline fuels may have the potential to expose individuals to TACs. The Proposed Project would be considered significant if it would expose individuals to TACs in exceedance of SCAQMD thresholds and/or increase the severity of impacts considered in the 2009 SPW EIS/EIR or the 2016 SPPM Addendum.

Summary of 2009 San Pedro Waterfront Project Environmental Impact Statement/Environmental Impact Report Findings

The 2009 SPW EIS/EIR prepared a Health Risk Assessment (HRA) to identify potential health risks from SPW construction and operational activities. The HRA determined that the cancer risk would exceed SCAQMD's 10 in a million threshold at residential, occupational, recreational, and nonresidential sensitive receptors, but not at student receptors (2009 SPW EIS/EIR, Table 3.2-37). The HRA also determined that the non-cancer chronic impacts would not exceed SCAQMD's 1.0 threshold, but that acute impacts would be exceeded at residential, occupational, and recreational receptors (2009 SPW EIS/EIR, Table 3.2-37). The 2009 SPW EIS/EIR concluded that although mitigation measures would reduce impacts, the cancer risk would remain significant and unavoidable under CEQA for occupational and recreational receptors and under the National Environmental

Policy Act (NEPA) for residential, occupational, and recreational receptors. The 2009 SPW EIS/EIR also concluded that although mitigation measures would reduce acute impacts, impacts under CEQA would remain significant and unavoidable for residential, occupational, and recreational receptors and under NEPA for occupational and recreational receptors (2009 SPW EIS/EIR, Table 3.2-38).

Summary of 2016 SPPM Addendum to the San Pedro Waterfront Project Environmental Impact Report for the San Pedro Public Market Project Findings

The 2016 SPPM Addendum determined that activities would not result in new significant impacts, substantially increase the severity of previously analyzed impacts, or require new mitigation measures that had not already been evaluated in the 2009 SPW EIS/EIR. The 2016 SPPM Addendum did not identify mitigation measures required in the 2009 SPW EIS/EIR as applicable to operational activities of the SPPM Project and concluded that the SPPM Project would not result in substantial change from findings in the 2009 SPW EIS/EIR.

Impacts of the Proposed Project

Construction activities associated with the Proposed Project would result in short-term emissions of DPM from the combustion of diesel fuel in off-road construction equipment engines and on-road diesel vehicles. CARB classifies DPM as a TAC and uses PM₁₀ emissions from diesel exhaust as a surrogate for DPM. The anticipated 15 months of construction would be much less than the 30 years typically considered in a cancer-risk determination and less than the 70 years considered in the 2009 SPW EIS/EIR HRA. In addition, Table 3.2-9 presents regional and Table 3.2-10 presents localized PM₁₀ emissions, of which only approximately 22 percent and 42 percent are from engine exhaust (i.e., DPM), respectively; this is a small fraction of the total PM₁₀ emissions, which would be well below regional and localized thresholds.

Diesel engines emit TACs in disproportionately higher concentrations than gasoline engines and, on a horsepower basis, diesel exhaust is considered to be more toxic than gasoline exhaust (Krivoshto et al. 2008). Aside from an emergency diesel generator, operation of the Proposed Project would not use diesel fuel, would be primarily recreational, and would not involve heavy industrial processes associated with TACs or land uses associated with heavy-diesel transportation. Patron and worker vehicles would be mostly gasoline-fueled autos, and the use of electric vehicles is expected to increase in future years as California regulations drive the penetration of electric vehicles in the fleet mix.

Impacts associated with proposed firework displays and tugboats used to position firework barges are unique to the Proposed Project and were quantified using SCAQMD's *Risk Screening Procedures* (SCAQMD 2017b). The analysis assessed cancer risk, non-cancer chronic impacts, and short-term acute exposure. Table 3.2-15 shows that firework displays would result in impacts well below SCAQMD's thresholds of significance. In addition, firework displays would occur at an off-shore location and, as such, would be unlikely to affect the same receptors identified as adversely affected in the 2009 SPW EIS/EIR.

Table 3.2-15. Toxic Air Contaminant Emissions and Impacts Associated with Firework Displays

Pollutant	Peak Hour (pounds/hour)		
Copper	0.89		
Hexavalent Chromium	0.00		
Lead	0.00		
Formaldehyde	0.00		
Acetaldehyde	0.01		
Acrolein	0.00		
Naphthalene	0.02		
DPM (tugboats)	0.34		
Receptor Type	Cancer Risk	Non-Chronic Hazard Index	Acute Hazard Index
Residential	4.0E-07 (0.4 in a million)	7.6E-05	6.0E-02
Offsite Worker	5.4E-07 (0.5 in a million)	3.3E-05	2.2E-01
Significance Threshold	1.0E-05 (10 in a million)	1	1
Exceeds Threshold?	No	No	No

Source: Appendix B, Air Quality Supporting Tables.

Notes: Firework emissions reflect a basis of 100 pounds per display event, and 25 events per year.

Risk Screening based on South Coast Air Quality Management District Risk Assessment Procedures v8.1, Tier II, September 2017.

Display duration: 20 minutes per event.

Distance to sensitive receptor: 780 meters.

Distance to offsite worker receptor: 305 meters.

Previous Mitigation Measures Applicable to the Proposed Project

No applicable mitigation measures were identified.

New Mitigation Measures Applicable to the Proposed Project

MM-AQ-31 would be implemented.

Significance after Mitigation

MM-AQ-31 was quantified and would reduce emissions from shuttle buses, as shown in Table 3.2-12.

In addition, impacts associated with proposed firework displays and tugboats used to position firework barges were quantified using SCAQMD's Risk Screening (SCAQMD 2017b). Results, presented in Table 3.2-15, show that activities associated with firework displays would result in impacts well below SCAQMD's thresholds of significance.

Proposed Project activities would not result in cancer risk, non-cancer chronic impacts, or acute health impacts that exceed SCAQMD's health-protective thresholds and would not result in any new significant impacts not previously considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum. The Proposed Project would add to impacts already deemed significant in the 2009 SPW EIS/EIR and

2016 SPPM Addendum, but would not substantially increase the severity of those impacts. Therefore, the Proposed Project would not create a new impact or increase the severity of a previously identified impact made in the 2009 SPW EIS/EIR or 2016 SPPM Addendum under **Impact AQ-7**, and residual impacts would remain significant and unavoidable.

Impact AQ-8. Would the Proposed Project conflict with or obstruct implementation of an applicable air quality plan and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?

The Proposed Project would be considered consistent with an applicable air quality plan or policy and would not interfere with attainment goals if the Proposed Project's activities were consistent with applicable provisions of the plans and policies identified below.

Summary of 2009 San Pedro Waterfront Project Environmental Impact Statement/Environmental Impact Report Findings

The 2009 SPW EIS/EIR determined that activities would not conflict with or obstruct implementation of SCAQMD's 2007 AQMP, the applicable plan at the time of the 2009 SPW EIS/EIR.

Summary of 2016 SPPM Addendum to the San Pedro Waterfront Project Environmental Impact Report for the San Pedro Public Market Project Findings

The 2016 SPPM Addendum determined that activities would not result in new significant impacts, substantially increase the severity of previously analyzed impacts, or require new mitigation measures that had not already been evaluated in the 2009 SPW EIS/EIR. The 2016 SPPM Addendum concluded that the SPPM Project would not result in substantial change from findings in the 2009 SPW EIS/EIR.

Impacts of the Proposed Project

Proposed Project activities would result in emissions of nonattainment pollutants, primarily from diesel-combustion equipment used during construction and from on-road automobiles utilizing streets during operation. The SCAQMD periodically updates its AQMP; the most recent update was adopted in December 2022 (SCAQMD 2022a).

The 2022 AQMP and prior iterations included emission-reduction measures designed to bring the SCAB into attainment of the national and state ambient air quality standards. The 2022 AQMP contains attainment strategies that include mobile source-control measures and clean-fuel projects that are enforced at the federal and state levels on engine manufacturers and petroleum refiners and retailers. Proposed Project activities would comply with these control measures. SCAQMD also adopts AQMP control measures into SCAQMD rules and regulations, which are then used to regulate sources of air pollution in the SCAB. Compliance with these requirements would further ensure that Proposed Project activities would not obstruct implementation of the AQMP.

Previous Mitigation Measures Applicable to the Proposed Project

No applicable mitigation measures were identified.

New Mitigation Measures Applicable to the Proposed Project

No new mitigation measures are needed.

Significance after Mitigation

The Proposed Project would be consistent with and would not obstruct implementation of an applicable AQMP and would not result in new significant impacts under **Impact AQ-8**. The Proposed Project also would not substantially increase the severity of impacts identified as less than significant in the 2009 SPW EIS/EIR or 2016 SPPM Addendum. Therefore, the Proposed Project would not create a new impact or increase the severity of a previously identified impact made in the 2009 SPW EIS/EIR and 2016 SPPM Addendum under **Impact AQ-8**, and residual impacts would remain less than significant.

3.2.10 Discussion of Health Effects Related to Criteria Pollutant Impacts

The California Supreme Court's decision in the Friant Ranch case (*Sierra Club v. County of Fresno* 2018) focused on the adequacy of the EIR for the Friant Ranch development project. The court found that the EIR did not sufficiently connect the project's air quality impacts to specific health consequences and opined that projects with significant air quality impacts should relate expected adverse air quality impacts to likely health consequences or explain why it is not feasible to provide such an analysis.

Although the Proposed Project would not create any new significant impact or increase the severity of previously identified impacts, it would add to impacts previously deemed significant in the 2009 SPW EIS/EIR and 2016 SPPM Addendum; 2009 SPW EIR/EIS Impacts **AQ-1**, **AQ-2**, **AQ-3**, and **AQ-4** would remain significant and unavoidable. For this reason, a supplemental discussion of the potential health effects of criteria air pollutant impacts in accordance with the findings of the Friant Ranch decision is provided in this section.

Potential health effects are described for the Proposed Project's criteria pollutant emissions identified in Impacts **AQ-1** and **AQ-3** and ambient pollutant concentrations identified in Impacts **AQ-2** and **AQ-4**. Information about health-effects was acquired through a review of available literature published by SCAQMD, CARB, and USEPA.

The health effects discussion considered both regional health effects (i.e., effects that could be experienced throughout the SCAB) and local health effects (i.e., effects in the vicinity of the Project Site). The discussion of health effects is guided by the stepwise process depicted in Figure 3.2-2. The first step, emissions analysis, is presented in **Impact AQ-1** for construction and **AQ-3** for operation and is indicative of regional air quality impacts because the analysis determines the quantity of pollutants released into the SCAB from Proposed Project-related sources operating within the SCAB. The second step, comparison to LST or dispersion modeling, is presented in **Impact AQ-2** for construction and **AQ-4** for operation and is indicative of local impacts. The third step, HRA, is

presented in **Impact AQ-7**. The results for individual cancer risk presented in Table 3.2-15 are already direct estimates of the health effects associated with exposure to the Proposed Project’s TAC emissions. Therefore, no further health-effects discussion is necessary for the HRA.

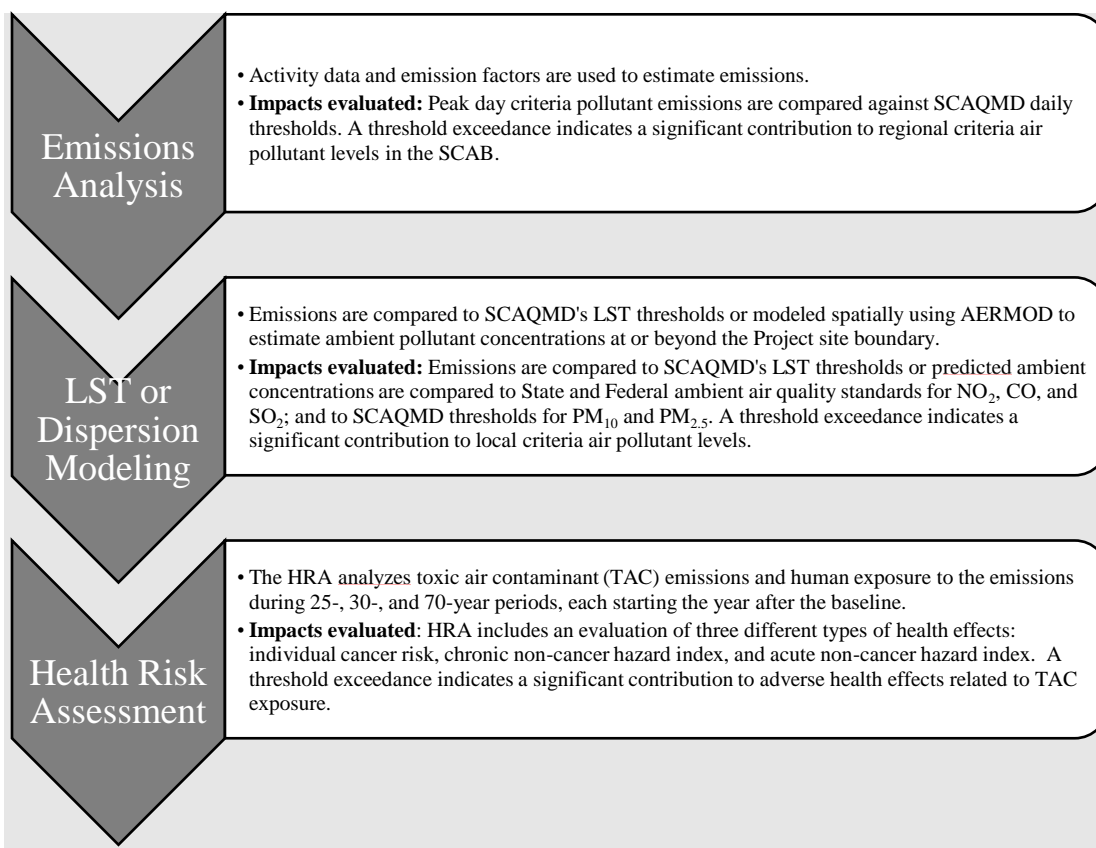


Figure 3.2-2. Air Quality Analysis Key Elements and Progression

3.2.10.1 Regional Health Effects

This section discusses the relationship between the Proposed Project’s regional criteria-pollutant emissions and the potential for adverse health effects on persons exposed to the emitted pollutants. Although the Proposed Project would not create new significant impacts or increase the severity of previously identified impacts, it would add to the significant regional emissions of VOC, CO, NO_x, PM₁₀, and PM_{2.5} that were previously identified the 2009 SPW EIS/EIR and 2016 SPPM Addendum (see **Impacts AQ-1** and **AQ-3**). Of these, CO, PM₁₀, and PM_{2.5} are criteria pollutants. Also, criteria pollutant NO₂ is the primary component of NO_x. In addition, VOC and NO_x are precursors of ozone, a criteria pollutant that is photochemically formed from the precursors in the atmosphere and in the presence of sunlight. For example, the highest ozone concentrations are not found in urban areas close to the concentrated sources of its precursors, but rather in suburban and rural areas, downwind of these sources. Therefore, the criteria pollutants evaluated for regional health effects are CO, NO₂, ozone, PM₁₀, and PM_{2.5}.

In an *amicus curiae* brief submitted to the California Supreme Court in the *Sierra Club v. County of Fresno (“Friant Ranch”)* case, the SCAQMD stated that it did not know of a way to accurately quantify health impacts caused by emissions produced on a scale as small as individual projects

(SCAQMD 2015). One existing tool, EPA’s Benefits Mapping and Analysis Program (BenMAP), calculates the number and economic value of air pollution–related deaths and illnesses resulting from changes in ozone and PM_{2.5} concentrations (EPA 2019b). However, the expected changes in regional concentrations associated with the Proposed Project would be so low that BenMAP would likely produce estimates of health effects that are near zero. Therefore, the extent to which regional adverse health effects can be identified in this section is limited to: (1) discussing the Proposed Project’s potential impact on regional pollutant levels; and (2) generally describing the types of adverse health effects associated with exposure to the pollutants of concern.

Carbon Monoxide (CO)

Impact on Regional CO Concentrations

The SCAB is currently designated as in “attainment” of CAAQS and in “maintenance” of NAAQS for CO. CAAQS were established to protect public health, including the most sensitive groups (CARB 2024a). NAAQS were established to protect public health within an adequate margin of safety (EPA 2024). The most stringent NAAQS or CAAQS (also referred to as federal or state standards) for CO are the 20-ppm 1-hour average state standard and the 9.0-ppm 8-hour average federal and state standards.

The highest CO concentrations recorded anywhere in the SCAB over the last 3 available years from 2021 to 2023 are 4.3 ppm for a 1-hour average and 3.7 ppm for an 8-hour average (SCAQMD 2024). These pollutant levels are 22 and 41 percent of the 1-hour and 8-hour standards, respectively.

CARB created the California Emissions Projection Analysis Model (CEPAM) to support SIP development. For the year 2025, the closest year to Proposed Project activities, CEPAM version 1.03 projects that total CO emissions within the SCAB would be 1,820 tons/day (CARB 2024b). By comparison, the Proposed Project would add a maximum of 236.7 pounds/day (0.12 ton/day) of CO emissions (see Table 3.2-12), which is 0.007 percent of the total projected SCAB emissions for 2025. Given that the current CO concentrations in the SCAB are approximately 41 percent and 22 percent of NAAQS and CAAQS, respectively, it is very unlikely that a 0.007-percent emissions contribution from the Proposed Project would lead to a violation of NAAQS or CAAQS anywhere in the SCAB.

Potential Health Effects

In developing the CO standards, EPA (2010) evaluated the possible health effects associated with CO exposure. The main conclusions are as follows.

- Individuals with a deficient blood supply to the heart are the most susceptible to the adverse effects of CO exposure. The effects observed include earlier onset of chest pain with exercise and electrocardiograph changes indicative of worsening oxygen-supply delivery to the heart. Inhaled CO has no known direct toxic effect on the lungs, but exerts its effect on tissues by interfering with oxygen transport by competing with oxygen to combine with hemoglobin present in the blood to form carboxyhemoglobin (COHb). Hence, people with conditions requiring an increased oxygen supply can be adversely affected by exposure to CO. Individuals most at risk include patients with diseases involving heart and blood vessels, fetuses, and patients with chronic hypoxemia (i.e., oxygen deficiency), such as is seen at high altitudes. Reductions in birth weight and impaired neurobehavioral development have been observed in animals chronically exposed to

CO, resulting in COHb levels similar to those observed in smokers. Recent studies have found increased risks for adverse birth outcomes with exposure to elevated CO levels, including preterm births and heart abnormalities.

Nitrogen Dioxide (NO₂)

Impact on Regional NO₂ Concentrations

The SCAB is currently designated as in “attainment” of CAAQS and in “maintenance” of NAAQS for NO₂. The most stringent NO₂ standards are the 0.18-ppm 1-hour average state standard, the 0.100-ppm 1-hour federal standard (expressed as the 3-year average of the 98th percentile of the annual distributions of daily maximum 1-hour average concentrations), and the 0.030-ppm annual average state standard.

The highest NO₂ concentrations recorded in the SCAB over the last 3 available years from 2021 to 2023) are 0.095 ppm for the state 1-hour average, 0.076 ppm for the federal 1-hour average, and 0.03 ppm for the annual average standard (SCAQMD 2024). These pollutant levels are 53, 76, and 100 percent of the state 1-hour, federal 1-hour, and annual standards, respectively.

In 2025, the closest year to Proposed Project activities, CARB’s CEPAM projects that total NO_x emissions within the SCAB would be 247 tons/day (CARB 2024b). By comparison, the Proposed Project would add a maximum of 66.9 pounds/day (0.03 tons/day) on NO_x emissions (see Table 3.2-9), which would be 0.001 percent of the total projected SCAB emissions for 2025. Therefore, the Proposed Project’s contribution to regional NO₂ levels would be relatively small.

Potential Health Effects

In developing the NO₂ standards, EPA (2016) and CARB (CARB 2007) evaluated the possible health effects associated with NO₂ exposure. The main conclusions of these agencies are as follows.

- EPA concluded that a causal relationship exists between short-term NO₂ exposure and respiratory effects, such as asthma attacks. There is also likelihood of a causal relationship between long-term NO₂ exposure and respiratory effects based on the evidence for development of asthma. For short-term and/or long-term NO₂ exposure, evidence is suggestive of, but not sufficient to imply, a causal relationship with cardiovascular effects, diabetes, mortality, adverse birth outcomes, and cancer. People with asthma, children, and older adults are at increased risk for NO₂-related health effects.
- CARB concluded that, in controlled human-exposure studies, asthmatics appear to be especially sensitive to NO₂. Asthmatic volunteers have experienced short-term effects at NO₂ concentrations as low as 0.26 ppm. There is evidence that a subset of asthmatics may experience increased airway reactivity at concentrations of 0.2 to 0.3 ppm for 30 minutes to 2 hours. Generally, no clinical effects are reported in non-asthmatic volunteers in conditions below 1 ppm. Epidemiological studies have shown an association between NO₂ and both hospital admissions and emergency-room visits for asthma at 24-hour average concentrations ranging from 0.018 to 0.036 ppm. Less robust evidence suggests associations with mortality, hospitalization for cardiovascular disease, and low birth weight.

Ozone

Impact on Regional Ozone Concentrations

The SCAB is currently designated as in “nonattainment” of ozone federal and state concentration standards. The most stringent ozone standards are the 0.09-ppm 1-hour average state standard and the 0.070-ppm 8-hour federal and state standard (the federal standard is expressed as the 3-year average of the fourth-highest 8-hour concentration each year).

The highest 1-hour ozone concentration recorded in the SCAB over the last 3 available years from 2021 to 2023 was 0.155 ppm, which is 1.7 times greater than the standard (SCAQMD 2024). The highest 8-hour ozone concentration recorded in the SCAB over the last three available years from (2021 to 2023) is 0.112 ppm, which is 1.6 times greater than the standard (SCAQMD 2024).

In 2025, the closest year to Proposed Project activities, CARB’s CEPAM projects that total VOC emissions within the SCAB would be 506.6 tons/day (CARB 2024b). By comparison, the Proposed Project would add a maximum of 23.9 pounds/day (0.01 tons/day), which would be 0.002 percent of the total projected SCAB emissions for 2025 (see Table 3.2-12). As discussed above for NO₂, the Proposed Project would add a maximum of 0.009 percent to the total projected SCAB emissions for 2025. Therefore, the Proposed Project’s contribution to regional ozone levels would likely be insubstantial.

Potential Health Effects

In developing the ozone standards, EPA (EPA 2020b) and CARB (CARB 2024c) evaluated the possible health effects associated with ozone exposure. The main conclusions of the agencies’ reports are as follows.

- EPA concluded that a causal relationship exists between short-term ozone exposure and respiratory effects. There is also a likelihood of a causal relationship between short-term ozone exposure and metabolic effects. Also, evidence is suggestive of, but not sufficient to infer, a causal relationship between short-term ozone exposure and cardiovascular effects, mortality, and central nervous system effects. For long-term exposure, there is a likelihood of a causal relationship with respiratory effects. Also, evidence is suggestive of, but not sufficient to infer, a causal relationship between long-term ozone exposure and cardiovascular effects, metabolic effects, mortality, reproductive and developmental effects, and central nervous system effects. There is inadequate evidence to infer a causal relationship between long-term ozone exposure and increased risk of lung cancer. Finally, there is adequate evidence for increased ozone-related health effects in the following populations: individuals with asthma; children; older adults; outdoor workers; individuals with certain genotypes; and individuals with reduced intake of Vitamins E and C.
- CARB concluded that inhalation of ozone can result in inflammation and irritation of the tissues lining human airways, causing and worsening a variety of symptoms. Exposure to ozone can reduce the volume of air that the lungs breathe in and cause shortness of breath. Ozone in sufficient doses increases the permeability of lung cells, rendering them more susceptible to toxins and microorganisms. The occurrence and severity of health effects from ozone exposure vary widely among individuals, even when the dose and the duration of exposure are the same. CARB also concluded that adults and children who spend more time outdoors participating in

vigorous physical activities are at greater risk from the harmful health effects of ozone exposure. Available studies show that children are no more or less likely to suffer harmful effects than adults. However, there are several reasons why children may be more susceptible to ozone and other pollutants: children and teens spend nearly twice as much time outdoors and engaged in vigorous activities as adults; children breathe more rapidly than adults and inhale more pollution per pound of their body weight than adults; and children are less likely than adults to notice their own symptoms and avoid harmful exposures.

Particulate Matter Less than 10 Microns (PM₁₀) in Diameter

Impact on Regional PM₁₀ Concentrations

The SCAB is currently designated in nonattainment of CAAQS and in maintenance of NAAQS for PM₁₀. The most stringent PM₁₀ standards are the 50-micrograms per cubic meter ($\mu\text{g}/\text{m}^3$) 24-hour average state standard and the 20- $\mu\text{g}/\text{m}^3$ annual state standard.

The highest 24-hour PM₁₀ concentration recorded in the SCAB over the last 3 available years from 2021 to 2023 is 186 $\mu\text{g}/\text{m}^3$, which is 3.7 times greater than the standard (SCAQMD 2024). The highest annual PM₁₀ concentration recorded in the SCAB over the last 3 available years from 2021 to 2023 is 49.6 $\mu\text{g}/\text{m}^3$, which is 2.5 times greater than the standard (SCAQMD 2024).

In 2025, the closest year to Proposed Project activities, CARB's CEPAM projects that total PM₁₀ emissions within the SCAB would be 192.3 tons/day (CARB 2024b). By comparison, the Proposed Project would add a maximum of 35.3 pounds/day (0.02 tons/day), which would be 0.009 percent of the total projected SCAB emissions for 2025 (see Table 3.2-12). Therefore, the Proposed Project's contribution to regional PM₁₀ levels would be relatively small.

Potential Health Effects

In developing the PM₁₀ standards, EPA (EPA 2019a) and CARB (CARB 2024d) evaluated the possible health effects associated with PM₁₀ exposure. The main conclusions of the agencies and their reports are as follows.

- EPA concluded that evidence is suggestive of, but not sufficient to infer, a causal relationship between short-term PM₁₀ exposure and respiratory effects, cardiovascular effects, and mortality. Evidence is suggestive of, but not sufficient to infer, a causal relationship between long-term PM₁₀ exposure and cardiovascular effects, metabolic effects, nervous system effects, cancer, and mortality.
- CARB's website states that short-term exposures to PM₁₀ may be associated with worsening of respiratory diseases, including asthma and chronic obstructive pulmonary disease, leading to hospitalization and emergency-department visits. The effects of long-term exposure to PM₁₀ are less clear, although studies suggest a link between long-term PM₁₀ exposure and respiratory mortality. Research points to older adults with chronic heart or lung disease, children, and asthmatics as the groups most likely to experience adverse health effects from short-term exposure to PM₁₀. Also, children and infants are susceptible to harm from inhaling pollutants such as PM₁₀ because they inhale more air per pound of body weight than do adults. In addition, children's immature immune systems may cause them to be more susceptible than healthy adults.

- SCAQMD concluded that there is a causal relationship between PM_{2.5} exposure and cardiovascular effects and mortality. Specific cardiovascular effects include cardiovascular deaths, hospital admissions for ischemic heart disease and congestive heart failure, changes in heart rate variability and markers of oxidative stress, and markers of atherosclerosis. A causal relationship is likely to exist between PM_{2.5} exposure and respiratory effects, such as hospital admissions for chronic obstructive pulmonary disease or respiratory infections, asthma development, asthma or allergy exacerbation, lung cancer, impacts on lung function, lung inflammation, oxidative stress, and airway hyperresponsiveness. Both short-term and long-term PM exposures are linked to health effects in humans. Young children, older adults, and people with pre-existing respiratory or cardiovascular health conditions are among those who may be more susceptible to the adverse effects of PM.

Particulate Matter Less than 2.5 Microns (PM_{2.5}) in Diameter

Impact on Regional PM_{2.5} Concentrations

The SCAB is currently designated in nonattainment of CAAQS and NAAQS for PM_{2.5}. The most stringent PM_{2.5} standards are the 35- $\mu\text{g}/\text{m}^3$ 24-hour average federal standard (expressed as the 98th percentile of the daily average, over 3 years) and the 12- $\mu\text{g}/\text{m}^3$ annual federal and state standard.

The highest 24-hour PM_{2.5} concentration recorded in the SCAB over the last 3 available years (2021–2023) was 47.9 $\mu\text{g}/\text{m}^3$, which is 1.4 times the standard (SCAQMD 2024). The highest annual PM_{2.5} concentration recorded in the SCAB over the last 3 available years (2021–2023) was 14.5 $\mu\text{g}/\text{m}^3$, which is 1.2 times the standard (SCAQMD 2024).

In 2025, the closest year to Proposed Project activities, CARB's CEPAM projects that total PM_{2.5} emissions within the SCAB would be 80.5 tons/day (CARB 2024b). By comparison, the Proposed Project would add a maximum of 16.4 pounds/day (0.008 tons/day), which would be 0.01 percent of the total projected SCAB emissions for 2025 (see Table 3.2-12). Therefore, the Proposed Project's contribution to regional PM_{2.5} levels would be relatively small.

Potential Health Effects

In developing the PM_{2.5} standards, EPA (EPA 2022) and CARB (CARB 2024d) evaluated the possible health effects associated with PM_{2.5} exposure. The main conclusions of these agencies are as follows.

- EPA concluded that a causal relationship exists between short-term PM_{2.5} exposure, long-term PM_{2.5} exposure, and cardiovascular effects and mortality. A causal relationship is likely to exist between short-term PM_{2.5} exposure and respiratory effects. Also, a causal relationship is likely to exist between long-term PM_{2.5} exposure and respiratory effects, nervous system effects, and cancer effects.
- CARB's website states that short-term exposure to PM_{2.5} have been associated with premature mortality, increased hospital admissions for heart or lung causes, acute and chronic bronchitis, asthma attacks, emergency-room visits, respiratory symptoms, and restricted activity days. These adverse health effects have been reported primarily in infants, children, and older adults with preexisting heart or lung diseases. Long-term exposure to PM_{2.5} has been linked to premature

death, particularly in people who have chronic heart or lung diseases, and reduced lung-function growth in children.

In summary, the Proposed Project would add to previously determined significant regional emissions of VOC, CO, and NO_x, PM₁₀, or PM_{2.5}. These emissions would make relatively small contributions to regional levels of CO, NO₂, ozone, PM₁₀, and PM_{2.5}. Currently, no methodology is available that can accurately quantify regional health effects from exposure to these pollutants associated with an individual project's emissions. Therefore, the above discussion is limited to identifying the Proposed Project's potential contribution to regional pollutant levels and generally describing the types of adverse health effects associated with exposure to those pollutants.

3.2.10.2 Local Health Effects

This section discusses the relationship between the Proposed Project's localized criteria-pollutant impacts and the potential for adverse health effects on persons exposed to those impacts. Although the Proposed Project would not create new significant impacts or increase the severity of previously identified impacts, it would add to significant impacts for localized ambient air concentrations of NO₂, PM₁₀, and PM_{2.5}, as previously identified in the 2009 SPW EIS/EIR and 2016 SPPM Addendum (see **Impact AQ-2** in Section 3.2.9 and **Impact AQ-4** in Section 3.2.9).

As discussed under Section 3.2.10.1, *Regional Health Effects*, there is currently no methodology available that can accurately quantify local health effects from ambient NO₂, PM₁₀, or PM_{2.5} concentrations associated with an individual project. Therefore, the extent to which local adverse health effects can be identified in this section is limited to: (1) presenting the magnitude of the local impacts; and (2) describing the types of adverse health effects associated with exposure to NO₂, PM₁₀, and PM_{2.5}.

Nitrogen Dioxide (NO₂)

The SCAB is currently designated in attainment of CAAQS and in maintenance of NAAQS for NO₂. Table 3.2-3 shows that local NO₂ concentrations recorded at the San Pedro Community Station, located within 0.5 mile of the Project Site, have not exceeded CAAQS and NAAQS standards in the last 3 available years (2019/2020–2021/2022).

SCAQMD's LST methodology was used to assess whether pollutant concentrations from construction (see **Impact AQ-2**) and operation (see **Impact AQ-4**) would affect ambient air quality. The SCAQMD developed the LST methodology to assist CEQA lead agencies in analyzing localized air quality impacts from proposed projects (SCAQMD 2009). The LST methodology is a screening methodology that allows users to determine, in lieu of conducting a dispersion modeling analysis, whether a project would cause or contribute to an exceedance of NAAQS or CAAQS.

Table 3.2-10 and Table 3.2-14 show that NO_x emissions would not exceed SCAQMD's LSTs and that Proposed Project emissions are therefore not expected to result in concentrations that would contribute to an exceedance of the NO₂ standards.

Potential health effects associated with NO₂ exposure are described under Section 3.2.10.1, *Regional Health Effects*.

Particulate Matter Less than 10 Microns (PM₁₀) in Diameter

The SCAB is currently designated in nonattainment of CAAQS and in maintenance of NAAQS for PM₁₀. Locally, Table 3.2-3 shows that PM₁₀ concentrations recorded at the San Pedro Community Station, exceeded the 24-hour state standard in two of the last three available years (2019/2020 and 2020/2021). The highest observed concentration of 70.6 µg/m³ is 1.4 times higher than the 50 µg/m³ standard. The San Pedro Community Station also exceeded the annual PM₁₀ standard in all three years (2019/2020 – 2021/2022). The highest observed concentration of 27.2 µg/m³ is also approximately 1.4 times higher than the 20 µg/m³ standard.

The LST methodology was used to assess whether pollutant concentrations from construction (see Section 3.2.9 **AQ-2**) and operation (see Section 3.2.9 **AQ-4**) would impact ambient air quality. Table 3.2-10 and Table 3.2-14 show that PM₁₀ emissions would not exceed SCAQMD's LSTs and that Proposed Project emissions are not expected to result in concentrations that would contribute to an exceedance of the PM₁₀ standards.

Potential health effects associated with PM₁₀ exposure are described above under Regional Health Effects. In addition, the SCAQMD also found that the DPM portion of PM₁₀ is a significant contributor to the cancer risk associated with toxic air contaminants in the SCAB. For example, the average lifetime risk for excess cancer cases in the SCAB from all sources is estimated to be 455 per million. SCAQMD's Multiple Air Toxics Exposure Study V (MATES V) determined that DPM is responsible for about 67 percent of the risk (SCAQMD, 2021).

Particulate Matter Less than 2.5 Microns (PM_{2.5}) in Diameter

The SCAB is currently designated in nonattainment of CAAQS and NAAQS for PM_{2.5}. Locally, Table 3.2-3 shows that PM_{2.5} concentrations recorded at the San Pedro Community Station, have not exceeded NAAQS or CAAQS in the last 3 available years (2019/2020–2021/2022).

The LST methodology was used to assess whether pollutant concentrations from construction (see **Impact AQ-2**) and operation (see **Impact AQ-4**) would impact ambient air quality. Table 3.2-10 and Table 3.2-14 show that PM_{2.5} emissions would not exceed SCAQMD's LSTs and that Proposed Project emissions are therefore not expected to result in concentrations that would contribute to an exceedance of the PM_{2.5} standards.

Potential health effects associated with PM_{2.5} exposure are described above under Section 3.2.10.1, *Regional Health Effects*.

In summary, the Proposed Project would not produce significant local-concentration impacts of NO₂, PM₁₀, or PM_{2.5}. Currently, no methodology is available that can accurately quantify local health effects from ambient concentrations of these pollutants associated with an individual project. Therefore, the above discussion is limited to a discussion of the Proposed Project's magnitude and a general description of the types of adverse health effects associated with exposure to these pollutants.

3.2.11 Summary of Impact Determinations

Chapter 5, *Alternatives*, of this SEIR presents a discussion of project alternatives. In summary, Alternative 1 is the No Project Alternative, and Alternative 2 is the Half-Capacity Amphitheater Alternative. Under Alternative 1, implementation of Proposed Project elements would not occur, and

the area would be developed under the approved 2009 SPW EIS/EIR and 2016 SPPM Addendum. Alternative 1 would not add to impacts identified in the 2009 SPW EIS/EIR or the 2016 SPPM Addendum.

Under the Alternative 2, all Proposed Project improvements would be implemented, but the Amphitheater would have only half the seating capacity of the Proposed Project. Alternative 2 would add to impacts already deemed significant in the 2009 SPW EIS/EIR and 2016 SPPM Addendum. However, impacts would be less than under the Proposed Project, and Alternative 2 would not substantially increase the severity of impacts identified in the 2009 SPW EIS/EIR and the 2016 SPPM Addendum. Alternative 2 would not change the determination of significance made in the 2009 SPW EIS/EIR or the 2016 SPPM Addendum.

Table 3.2-16 presents a summary of impact determinations for the Proposed Project that relate to air quality and health impacts.

Table 3.2-16. Summary of Potential Impacts on Air Quality Associated with the Proposed Project

Environmental Impacts	Impact Determination	MM(s)	Impact After Mitigation
<i>Proposed Project</i>			
Impact AQ-1: Would the Proposed Project result in new construction emissions that exceed the SCAQMD regional peak-daily emission thresholds of significance in Table 3.2-5 and/or increase the severity of impacts considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for the Proposed Project.	MM-AQ-3 through MM-AQ-8 from the 2009 SPW EIS/EIR would apply to the Proposed Project.	No new or substantially more severe significant impacts would occur. Implementation of MM-AQ-3 through MM-AQ-8 may reduce impacts, but impacts would remain significant.
Impact AQ-2: Would the Proposed Project result in ambient air pollutant concentrations from construction activities that exceed NAAQS or CAAQS and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for the Proposed Project.	MM-AQ-3 through MM-AQ-8 from the 2009 SPW EIS/EIR would apply to the Proposed Project.	No new or substantially more severe significant impacts would occur. Implementation of MM-AQ-3 through MM-AQ-8 may reduce impacts, but impacts would remain significant.
Impact AQ-3: Would the Proposed Project result in new operational emissions that exceed the SCAQMD regional peak daily emission thresholds of significance in Table 3.2-7 and/or increase the severity	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for the Proposed Project.	New MM-AQ-31 would apply to the Proposed Project.	No new or substantially more severe significant impacts would occur. Implementation of MM-AQ-31 would reduce impacts, but

Environmental Impacts	Impact Determination	MM(s)	Impact After Mitigation
of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?			impacts would remain significant.
Impact AQ-4: Would the Proposed Project result in ambient air pollutant concentrations from operational activities that exceed NAAQS or CAAQS and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for the Proposed Project.	New MM-AQ-31 would apply to the Proposed Project.	No new or substantially more severe significant impacts would occur. Implementation of MM-AQ-31 would reduce impacts, but impacts would remain significant.
Impact AQ-5: Would the Proposed Project result in on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a less-than-significant impact remains unchanged for the Proposed Project.	No mitigation is required.	No new or substantially more-severe significant impacts would occur.
Impact AQ-6: Would the Proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a less-than-significant impact remains unchanged for the Proposed Project.	No mitigation is required.	No new or substantially more-severe significant impacts would occur.
Impact AQ-7: Would the Proposed Project expose receptors to significant levels of TACs per the following SCAQMD thresholds and/or increase the severity of impact identified in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for the Proposed Project.	MM-AQ-3 through MM-AQ-8 from the 2009 SPW EIS/EIR and new MM-AQ-31 would apply to the Proposed Project.	No new or substantially more severe significant impacts would occur. Implementation of MM-AQ-3 through MM-AQ-8 and MM-AQ-31 would reduce impacts, but impacts would remain significant.
Impact AQ-8: Would the Proposed Project conflict with or obstruct	The 2009 SPW EIS/EIR finding of a less-than-significant impact	No mitigation is required.	No new or substantially more-

Environmental Impacts	Impact Determination	MM(s)	Impact After Mitigation
implementation of an applicable air quality plan and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	remains unchanged for the Proposed Project.		severe significant impacts would occur.
Alternative 1 – No Project Alternative			
Impact AQ-1: Would the Proposed Project result in new construction emissions that exceed the SCAQMD regional peak-daily emission thresholds of significance in Table 3.2-5 and/or increase the severity of impacts considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for Alternative 1.	MM-AQ-3 through MM-AQ-8 from the 2009 SPW EIS/EIR would apply to Alternative 1.	No new or substantially more severe significant impacts would occur. Implementation of MM-AQ-3 through MM-AQ-8 may reduce impacts, but impacts would remain significant.
Impact AQ-2: Would the Proposed Project result in ambient air pollutant concentrations from construction activities that exceed NAAQS or CAAQS and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for Alternative 1.	MM-AQ-3 through MM-AQ-8 from the 2009 SPW EIS/EIR would apply to Alternative 1.	No new or substantially more severe significant impacts would occur. Implementation of MM-AQ-3 through MM-AQ-8 may reduce impacts, but impacts would remain significant.
Impact AQ-3: Would the Proposed Project result in new operational emissions that exceed the SCAQMD regional peak daily emission thresholds of significance in Table 3.2-7 and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for Alternative 1.	No mitigation is required.	No new or substantially more severe significant impacts would occur. Implementation of new MM-AQ-31 would reduce impacts, but impacts would remain significant.
Impact AQ-4: Would the Proposed Project result in ambient air pollutant concentrations from operational activities that exceed NAAQS or CAAQS and/or increase the severity of impact considered in the 2009	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for Alternative 1.	No mitigation is required.	No new or substantially more severe significant impacts would occur. Implementation of new MM-AQ-31 would reduce impacts, but impacts

Environmental Impacts	Impact Determination	MM(s)	Impact After Mitigation
SPW EIS/EIR or 2016 SPPM Addendum?			would remain significant.
Impact AQ-5: Would the Proposed Project result in on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a less-than-significant impact remains unchanged for Alternative 1.	No mitigation is required.	No new or substantially more-severe significant impacts would occur.
Impact AQ-6: Would the Proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a less-than-significant impact remains unchanged for the Proposed Project.	No mitigation is required.	No new or substantially more-severe significant impacts would occur.
Impact AQ-7: Would the Proposed Project expose receptors to significant levels of TACs per the following SCAQMD thresholds and/or increase the severity of impact identified in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for the Proposed Project.	No mitigation is required.	No new or substantially more severe significant impacts would occur. Implementation of MM-AQ-3 through MM-AQ-8 and new MM-AQ-31 would reduce impacts, but impacts would remain significant.
Impact AQ-8: Would the Proposed Project conflict with or obstruct implementation of an applicable air quality plan and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a less-than-significant impact remains unchanged for the Proposed Project.	No mitigation is required.	No new or substantially more-severe significant impacts would occur.
Alternative 2 – Half-Capacity Amphitheater Alternative			
Impact AQ-1: Would the Proposed Project result in new construction emissions that exceed the SCAQMD regional peak-daily	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact	MM-AQ-3 through MM-AQ-8 from the 2009 SPW EIS/EIR would apply to Alternative 2.	No new or substantially more severe significant impacts would occur. Implementation of

Environmental Impacts	Impact Determination	MM(s)	Impact After Mitigation
emission thresholds of significance in Table 3.2-5 and/or increase the severity of impacts considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	remains unchanged for Alternative 2.		MM-AQ-3 through MM-AQ-8 may reduce impacts, but impacts would remain significant.
Impact AQ-2: Would the Proposed Project result in ambient air pollutant concentrations from construction activities that exceed NAAQS or CAAQS and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for Alternative 2.	MM-AQ-3 through MM-AQ-8 from the 2009 SPW EIS/EIR would apply to Alternative 2.	No new or substantially more severe significant impacts would occur. Implementation of MM-AQ-3 through MM-AQ-8 may reduce impacts, but impacts would remain significant.
Impact AQ-3: Would the Proposed Project result in new operational emissions that exceed the SCAQMD regional peak daily emission thresholds of significance in Table 3.2-7 and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for Alternative 2.	New MM-AQ-31 would apply to Alternative 2.	No new or substantially more severe significant impacts would occur. Implementation of new MM-AQ-31 would reduce impacts, but impacts would remain significant.
Impact AQ-4: Would the Proposed Project result in ambient air pollutant concentrations from operational activities that exceed NAAQS or CAAQS and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for Alternative 2.	New MM-AQ-31 would apply to Alternative 2.	No new or substantially more severe significant impacts would occur. Implementation of new MM-AQ-31 would reduce impacts, but impacts would remain significant.
Impact AQ-5: Would the Proposed Project result in on-road traffic that would contribute to an exceedance of the 1-hour or 8-hour CO standards and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a less-than-significant impact remains unchanged for Alternative 2.	No mitigation is required.	No new or substantially more-severe significant impacts would occur.

Environmental Impacts	Impact Determination	MM(s)	Impact After Mitigation
Impact AQ-6: Would the Proposed Project result in other emissions (such as those leading to odors) adversely affecting a substantial number of people and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a less-than-significant impact remains unchanged for Alternative 2.	No mitigation is required.	No new or substantially more-severe significant impacts would occur.
Impact AQ-7: Would the Proposed Project expose receptors to significant levels of TACs per the following SCAQMD thresholds and/or increase the severity of impact identified in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a significant and unavoidable impact remains unchanged for Alternative 2.	No mitigation is required.	No new or substantially more severe significant impacts would occur. Implementation of MM-AQ-3 through MM-AQ-8 and new MM-AQ-31 would reduce impacts, but impacts would remain significant.
Impact AQ-8: Would the Proposed Project conflict with or obstruct implementation of an applicable air quality plan and/or increase the severity of impact considered in the 2009 SPW EIS/EIR or 2016 SPPM Addendum?	The 2009 SPW EIS/EIR finding of a less-than-significant impact remains unchanged for Alternative 2.	No mitigation is required.	No new or substantially more-severe significant impacts would occur.

CAAQS = California Ambient Air Quality Standards; CO = carbon monoxide; EIR = Environmental Impact Report; EIS = Environmental Impact Statement; MM = mitigation measure; NAAQS = National Ambient Air Quality Standards; SCAQMD = South Coast Air Quality Management District; SPPM = San Pedro Public Market; SPW = San Pedro Waterfront; TAC = toxic air contaminant

3.2.12 Mitigation Monitoring Program

The mitigation monitoring program outlined in Table 3.2-17 is applicable to the Proposed Project.

Table 3.2-17. Mitigation Monitoring Program

<p>MM-AQ-3: Fleet Modernization for On-Road Trucks During Construction.</p> <ol style="list-style-type: none"> Trucks hauling materials such as debris or fill will be fully covered while operating off Port property. Idling will be restricted to a maximum of 5 minutes when not in use. Tier Specifications: <ul style="list-style-type: none"> From January 1, 2024, to December 31, 2026: All on-road heavy-duty diesel trucks with a gross vehicle weight rating (GVWR) of 19,500 pounds or greater used on site or to transport materials to and from the site shall comply with 2012 emission standards, or newer, where available. Post January 1, 2027: All on-road heavy duty diesel trucks used on site or to transport materials to and from the site shall comply with 2015 emission standards, or newer, where available. A copy of each unit’s certified U.S. Environmental Protection Agency (USEPA) rating, Best Available Control Technology (BACT) documentation, and CARB or South Coast Air Quality Management District (SCAQMD) operating permit shall be provided at the time of mobilization of each applicable unit of equipment. 	
Timing	Throughout all construction phases.
Methodology	This measure will be incorporated into LAHD and Tenant contract specifications for all construction work to reduce the impact of construction diesel emissions. The contractor(s) will submit an Environmental Compliance Plan for review and approval by LAHD prior to beginning of any construction activity. The contractor will adhere to these specifications and Compliance Plan throughout construction phases. Enforcement will include oversight by the LAHD project/construction manager or designated building inspectors to ensure compliance with contract specifications.
<p>MM-AQ-4: Fleet Modernization for Construction Equipment.</p> <ol style="list-style-type: none"> Construction equipment will incorporate, where feasible, emissions-savings technology such as hybrid drives and specific fuel economy standards. Idling will be restricted to a maximum of 5 minutes when not in use. Tier Specifications: All offroad diesel-powered construction equipment greater than 50 hp will meet the Tier 4 emission standards, where available. In addition, all construction equipment will be outfitted with BACT devices certified by CARB. Any emissions-control device used by the contractor will achieve emissions 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. <p>A copy of each unit’s certified tier specification, BACT documentation, and CARB or SCAQMD operating permit will be provided at the time of mobilization of each applicable unit of equipment. Construction-equipment measures will be met, unless one of the following circumstances exist and the contractor is able to provide proof that any of these circumstances exists.</p> <ul style="list-style-type: none"> A piece of specialized equipment is unavailable in a controlled form within the state of California, including through a leasing agreement; A contractor has applied for necessary incentive funds to put controls on a piece of uncontrolled equipment planned for use on the project, but the application process is not yet approved, or the application has been approved, but funds are not yet available; and/or A contractor has ordered a control device for a piece of equipment planned for use on the project, or the contractor has ordered a new piece of controlled equipment to replace the uncontrolled equipment, but that order has not been completed by the manufacturer or dealer. In addition, for this exemption to apply, the contractor must attempt to lease controlled equipment to avoid using uncontrolled equipment, but no dealer within 200 miles of the project has the controlled equipment available for lease. 	
Timing	Throughout all construction phases.

<p>Methodology</p>	<ul style="list-style-type: none"> • This measure will be incorporated into LAHD and Tenant contract specifications for all construction work to reduce the impact of construction diesel emissions. The contractor(s) will submit an Environmental Compliance Plan for review and approval by LAHD prior to beginning of any construction activity. The contractor will adhere to these specifications and Compliance Plan throughout construction phases. Enforcement will include oversight by the LAHD project/construction manager or designated building inspectors to ensure compliance with contract specifications.
<p>MM-AQ-5: Fugitive Dust.</p> <p>The calculation of fugitive dust (i.e., PM₁₀) from unmitigated Proposed Project earth-moving activities assumes a 75-percent reduction from uncontrolled levels to simulate rigorous watering of the site and use of other measures (listed below) to ensure Proposed Project compliance with SCAQMD Rule 403. The construction contractor will apply for a SCAQMD Rule 403 Dust Control Permit. The construction contractor will further reduce fugitive dust emissions to 61-percent from uncontrolled levels. The construction contractor will designate personnel to monitor the dust control program and to order increased watering or other dust control measures, as necessary, to ensure a 61-percent control level. Their duties will include holiday and weekend periods when work may not be in progress.</p> <p>The following measures, at minimum, must be part of the contractor Rule 403 dust control plan.</p> <ul style="list-style-type: none"> • Active grading sites will be watered one additional time per day beyond that required by Rule 403; • Contractors will apply approved nontoxic chemical soil stabilizers to all inactive construction areas or replace groundcover in disturbed areas; • Construction contractors will provide temporary wind fencing around sites being graded or cleared; • Trucks hauling dirt, sand, or gravel will be covered or will maintain at least 2 feet of freeboard in accordance with Section 23114 of the California Vehicle Code; • Construction contractors will install wheel washers where vehicles enter and exit unpaved roads onto paved roads or wash off tires of vehicles and any equipment leaving the construction site; • The grading contractor will suspend all soil-disturbing activities when winds exceed 25 miles per hour or when visible dust plumes emanate from a site; disturbed areas will be stabilized if construction is delayed; • Trucks hauling materials such as debris or fill will be fully covered while operating off LAHD property; • A construction relations officer will be appointed to act as a community liaison concerning onsite construction activity, including resolution of issues related to PM₁₀ generation; • All streets will be swept at least once a day using SCAQMD Rule 1186, 1186.1-certified street sweepers or roadway-washing trucks if visible soil materials are carried to adjacent streets; • Water or nontoxic soil stabilizer will be applied three times daily to all unpaved parking or staging areas or unpaved road surfaces; • Roads and shoulders will be paved; and • Water will be applied three times daily or as needed to areas where soil is disturbed. 	
<p>Timing</p>	<p>Throughout all construction phases.</p>
<p>Methodology</p>	<p>This measure will be incorporated into the LAHD and Tenant contract specifications for all construction work to reduce the impact of fugitive dust (PM₁₀) emissions. The contractor(s) will submit an Environmental Compliance Plan for review and approval by LAHD prior to beginning of any construction activity. The contractor will adhere to these specifications and Compliance Plan throughout construction phases. Enforcement will include oversight by the LAHD project/construction manager or designated building inspectors to ensure compliance with contract specifications.</p>

<i>MM-AQ-6: Best Management Practices</i>	
The following types of measures are required on construction equipment (including on-road trucks).	
<ul style="list-style-type: none"> • Use diesel-oxidation catalysts and catalyzed diesel-particulate traps; • Maintain equipment according to manufacturers’ specifications; • Restrict idling of construction equipment to a maximum of 5 minutes when not in use.; and • Install high-pressure fuel injectors on construction equipment vehicles. 	
Timing	Throughout all construction phases.
Methodology	This measure will be incorporated into the LAHD and Tenant contract specifications for all construction work to reduce the impact of construction diesel emissions. The contractor(s) will submit an Environmental Compliance Plan for review and approval by LAHD prior to beginning of any construction activity. The contractor will adhere to these specifications and Compliance Plan throughout construction phases. Enforcement will include oversight by the LAHD project/construction manager or designated building inspectors to ensure compliance with contract specifications.
<i>MM-AQ-7: General Mitigation Measure During Construction</i>	
For any of the above mitigation measures (MM-AQ-3 through AQ-6), if a CARB-certified technology becomes available and is shown to be as good as or better in terms of emissions performance than the existing measure, then the new technology could replace the existing measure pending approval by the LAHD.	
Timing	Throughout all construction phases.
Methodology	This measure will be incorporated into the LAHD and Tenant contract specifications. The contractor(s) will submit an Environmental Compliance Plan that would include any proposed new technology for review and approval by LAHD prior to beginning of any construction activity,.
<i>MM-AQ-8: Special Precautions Near Sensitive Sites</i>	
When construction activities are planned within 1,000 feet of sensitive receptors (defined as schools, playgrounds, day care centers, and hospitals), the construction contractor will notify each of these sites in writing at least 30 days before construction activities begin.	
Timing	Throughout all construction phases.
Methodology	This measure will be incorporated into the LAHD and Tenant contract specifications for all construction work. The contractor(s) will submit an Environmental Compliance Plan that will include a plan to notify sensitive receptors for review and approval by LAHD prior to beginning any construction activity.
<i>MM-AQ-27: Light-Emitting Diode (LED) Lightbulbs</i>	
All buildings and exterior lighting will use LED light bulbs.	
Timing	Throughout all operational phases.
Methodology	This measure will be incorporated into the Tenant’s lease. Enforcement will include oversight by the LAHD Environmental Management and Real Estate Divisions. Annual staff reports will be made available to the Board at a regularly scheduled public board meeting.
<i>MM-AQ-31: Zero-Emission Shuttle Buses</i>	
To the extent commercially available for rent, the Tenant shall use zero-emission shuttle buses from Port-owned parking lots to the Project Site during ticketed amphitheater events.	
Timing	Six months prior to the opening of the Amphitheater and throughout all operational phases.

<p>Methodology</p>	<p>This measure will be incorporated into the Tenant’s lease. Enforcement will include oversight by the LAHD Environmental Management and Real Estate Divisions. Annual staff reports will be made available to the Board at a regularly scheduled public board meeting. The Tenant will comply with the measure through contracts and/or agreements with selected vendors. In the event zero-emission shuttle buses are not commercially available within the local and greater Los Angeles region, written verification from the Tenant will be provided to LAHD on an annual basis.</p>
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BACT = Best Available Control Technology; CARB = California Air Resources Board; GVWR = gross vehicle weight rating; LAHD = Los Angeles Harbor Department; LED = light-emitting diode; PM₁₀ = particulate matter smaller than 10 microns in diameter; SCAQMD = South Coast Air Quality Management District; USEPA = U.S. Environmental Protection Agency