6.0 AIR QUALITY

6.1 Regulatory Setting

6.1.1 Regulated Air Pollutants

The United States Environmental Protection Agency (U.S. EPA) has established National Ambient Air Quality Standards (NAAQS) for six air pollutants identified as being indicators of ambient air quality: ozone (O_3), carbon monoxide (CO); nitrogen dioxide (NO_2); sulfur dioxide (SO_2); particulate matter (PM)—which consists of "inhalable coarse" PM (particles with an aerodynamic diameter between 2.5 and 10 microns in diameter, or PM_{10}) and "fine" PM (particles with an aerodynamic diameter smaller than 2.5 microns, or $PM_{2.5}$); and lead. The U.S. EPA refers to these six pollutants as "criteria" pollutants because the agency regulates the pollutants on the basis of human health and/or environmentally based criteria.

The California Air Resources Board (CARB) has also established California Ambient Air Quality Standards (CAAQS) for the criteria air pollutants, plus the following additional air pollutants: hydrogen sulfide (H_2S), sulfates (SO_x), vinyl chloride, and visibility-reducing particles.

The NAAQS and CAAQS are reviewed with a legally prescribed frequency and are revised, as warranted, by new data on health and welfare effects. Each standard is based on a specific averaging time over which the concentration is measured. The most current standards are detailed in Table 6-1 below.

Table 6-1. National and California Ambient Air Quality Standards

Pollutant	Averaging Time	California Standards [a,c]	National Standards [b] Primary [c,d]	National Standards [b] Secondary [c,e]
Ozone [f]	1 hour	0.09 ppm (180 µg/m^3)	–	Same as primary standard
Ozone [f]	8 hours	0.070 ppm (137 µg/m^3)	0.070 ppm (147 µg/m^3)	Same as primary standard
Respirable particulate matter—10 micrometers or less [g]	24 hours	50 µg/m^3	150 µg/m^3	Same as primary standard
Respirable particulate matter—10 micrometers or less [g]	Annual arithmetic mean	20 µg/m^3	–	Same as primary standard
Fine particulate matter—2.5 micrometers or less [g]	24 hours	–	35 µg/m^3	Same as primary standard
Fine particulate matter—2.5 micrometers or less [g]	Annual arithmetic mean	12 µg/m^3	12 µg/m^3	15 µg/m
Carbon monoxide	8 hours	9.0 ppm (10 mg/m^3)	9 ppm (10 mg/m^3)	None
Carbon monoxide	1 hour	20 ppm (23 mg/m^3)	35 ppm (40 mg/m^3)	None
Carbon monoxide	8 hours (Lake Tahoe)	6 ppm (7 mg/m^3)	–	–
Nitrogen dioxide [h]	Annual arithmetic mean	0.030 ppm (57 µg/m^3)	0.053 ppm (100 µg/m^3)	Same as primary standard
Nitrogen dioxide [h]	1 hour	0.18 ppm (339 µg/m^3)	100 ppb (188 µg/m^3)	None
Sulfur dioxide [i]	Annual arithmetic Mean	–	0.030 ppm (for certain areas) [i]	–
Sulfur dioxide [i]	24 hours	0.04 ppm (105 µg/m^3)	0.14 ppm (for certain areas) [i]	–
Sulfur dioxide [i]	3 hours	–	–	0.5 ppm (1,300 µg/m^3)
Sulfur dioxide [i]	1 hour	0.25 ppm (655 µg/m^3)	75 ppb (196 µg/m^3)	–
Lead [j,k]	30-day average	1.5 µg/m^3	–	–
Lead [j,k]	Calendar quarter	–	1.5 µg/m^3 (for certain areas)[j]	Same as primary standard
Lead [j,k]	Rolling 3-month average	–	0.15 µg/m^3	Same as primary standard
Visibility-reducing particles [l]	8 hours	See footnote l	No national standards	No national standards
Sulfates	24 hours	25 µg/m^3	No national standards	No national standards
Hydrogen sulfide	1 hour	0.03 ppm (42 µg/m^3)	No national standards	No national standards
Vinyl chloride [j]	24 hours	0.01 ppm (26 µg/m^3)	No national standards	No national standards

Source: CARB 2016"

Notes: µg/m^3 = micrograms per cubic meter; mg/m^3 = milligrams per cubic meter; ppb = parts per billion; ppm = parts per million

[a] California standards for ozone, carbon monoxide (except 8-hour Lake Tahoe), sulfur dioxide (1- and 24-hour), nitrogen dioxide, and particulate matter (PM_{10}, $PM_{2.5}$, and visibility-reducing particles), are values that are not to be exceeded. All others are not to be equaled or exceeded. California ambient air quality standards are listed in the Table of Standards in Section 70200 of Title 17 of the California Code of Regulations.

[b] National standards (other than ozone, particulate matter, and those based on annual arithmetic mean) are not to be exceeded more than once a year. The ozone standard is attained when the fourth highest 8-hour concentration measured at each site in a year, averaged over 3 years, is equal to or less than the standard. For PM_{10}, the 24-hour standard is attained when the expected number of days per calendar year with a 24-hour average concentration above 150 µg/m^3 is equal to or less than 1. For $PM_{2.5}$, the 24-hour standard is attained when 98% of the daily concentrations, averaged over 3 years, are equal to or less than the standards.

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

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

[e] *National Secondary Standards:* Levels of air quality necessary to protect public welfare from any known or anticipated adverse effects of a pollutant.

[f] On October 1, 2015, the national 8-hour ozone primary and secondary standards were lowered from 0.075 to 0.070 ppm.

[g] On December 14, 2012, the national annual $PM_{2.5}$ primary standard was lowered from 15 µg/m^3 to 12.0 µg/m^3. The existing national 24-hour $PM_{2.5}$ standards (primary and secondary) were retained at 35 µg/m^3, as was the annual secondary standard of 15 µg/m^3. The existing 24-hour PM_{10} standards (primary and secondary) of 150 µg/m^3 also were retained. The form of the annual primary and secondary standards is the annual mean, averaged over 3 years.

[h] To attain the 1-hour national standard, the 3-year average of the annual 98th percentile of the 1-hour daily maximum concentrations at each site must not exceed 100 ppb. California standards are in units of ppm. To directly compare the national 1-hour standard to the California standards, the units can be converted from 100 ppb to 0.100 ppm.

[i] On June 2, 2010, a new 1-hour SO_2 standard was established and the existing 24-hour and annual primary standards were revoked. To attain the 1-hour national standard, the 3-year average of the annual 99th percentile of the 1-hour daily maximum concentrations at each site must not exceed 75 ppb. The 1971 SO_2 national standards (24-hour and annual) remain in effect until 1 year after an area is designated for the 2010 standard, except that in areas designated nonattainment for the 1971 standards, the 1971 standards remain in effect until implementation plans to attain or maintain the 2010 standards are approved. To directly compare the 1-hour national standard to the California standard, the units can be converted to ppm. In this case, the national standard of 75 ppb is identical of 0.075 ppm.

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

[k] The national standard for lead was revised on October 15, 2008, to a rolling 3-month average. The 1978 lead standard (1.5 µg/m^3 as a quarterly average) remains in effect until 1 year after an area is designated for the 2008 standard, except that in areas designated nonattainment for the 1978 standard, the 1978 standard remains in effect until implementation plans to attain or maintain the 2008 standards are approved.

[l] In 1989, CARB converted both the general statewide 10-mile visibility standard and the Lake Tahoe 30-mile visibility standard to instrumental equivalents, which are "extinction of 0.23 per kilometer" and the "extinction of 0.07 per kilometer" for the statewide and Lake Tahoe Air Basin standards, respectively.

A description of the air pollutants associated with the proposed PWP and its vicinity is provided below. As described in EIR section 6.1.2, PM and O_3 are the primary pollutants of concern in southern San Luis Obispo County. The other criteria air pollutants, such as CO, SO_2, SO_X, lead, vinyl chloride, and visibility-reducing particles, are not typically associated with the activities proposed under PWP implementation. Accordingly, O_3, ozone precursors, and PM are the only criteria air pollutants discussed in detail below. Carbon monoxide is typically associated with mobile-source emissions and a concern in areas of congestion where emissions may become concentrated; while this is not the case for the PWP, carbon monoxide is considered in the impact discussion below for comparison to the San Luis Obispo County Air Pollution Control District (SLOAPCD) thresholds.

- **Ground-level Ozone**, or smog, is not emitted directly into the atmosphere. It is created from chemical reactions between oxides of nitrogen (NO_X) and volatile organic compounds (VOCs), also called reactive organic gases (ROG), in the presence of sunlight (U.S. EPA 2020a). Thus, ozone formation is typically highest on hot sunny days in urban areas with NO_X and ROG pollution. Ozone irritates the nose, throat, and air pathways and can cause or aggravate shortness of breath, coughing, asthma attacks, and lung diseases such as emphysema and bronchitis.

- **Nitrogen Dioxide (NO_2)** is a by-product of combustion. NO_2 is not directly emitted but is formed through a reaction between nitric oxide (NO) and atmospheric oxygen. NO and NO_2 are collectively referred to as NO_X and are major contributors to ozone formation. NO_2 also contributes to the formation of particulate matter. NO_2 can cause breathing difficulties at high concentrations (U.S. EPA 2016).

- **Particulate Matter (PM)**, also known as particle pollution, is a mixture of extremely small solid and liquid particles made up of a variety of components such as organic chemicals, metals, and soil and dust particles (U.S. EPA 2020b).

    - PM_{10}, also known as inhalable, coarse, respirable, or suspended PM_{10}, consists of particles less than or equal to 10 micrometers in diameter (approximately 1/7th the thickness of a human hair). These particles can be inhaled deep into the lungs and possibly enter the blood stream, causing health effects that include, but are not limited to, increased respiratory symptoms (e.g., irritation, coughing), decreased lung capacity, aggravated asthma, irregular heartbeats, heart attacks, and premature death in people with heart or lung disease (U.S. EPA 2020c).

    - $PM_{2.5}$, also known as fine PM, consists of particles less than or equal to 2.5 micrometers in diameter (approximately $1/30^{th}$ the thickness of a human hair). These particles pose an increased risk because they can penetrate the deepest parts of the lung, leading to and exacerbating heart and lung health effects (U.S. EPA 2020b).

6.1.2 Attainment Status

The federal and state governments have established emissions standards and limits for air pollutants that may reasonably be anticipated to endanger public health or welfare. These standards typically take one of two forms: standards or requirements that are applicable to specific types of facilities or equipment (e.g., petroleum refining, metal smelting), or concentration-based standards that are applicable to overall ambient air quality. Air quality conditions are best described and understood in the context of these

standards; areas that meet, or attain, concentration-based ambient air quality standards are considered to have levels of pollutants in the ambient air that, based on the latest scientific knowledge, do not endanger public health or welfare.

- **Attainment.** A region is "in attainment" if monitoring shows ambient concentrations of a specific pollutant are less than or equal to the NAAQS or CAAQS. In addition, an area that has been re-designated from nonattainment to attainment is classified as a "maintenance area" for 10 years to ensure that the air quality improvements are sustained.

- **Nonattainment.** If the NAAQS or CAAQS are not met, the region is designated as nonattainment for that pollutant. It is important to note that some NAAQS and CAAQS require multiple exceedances of the standard in order for a region to be classified as nonattainment (see EIR section 6.1.1). Federal and state laws require nonattainment areas to develop strategies, implementation plans, and control measures to reduce pollutant concentrations to levels that meet, or attain, standards.

- **Unclassified.** An area is unclassified if the ambient air quality monitoring data are incomplete and do not support a designation of attainment or nonattainment.

The NAAQS and CAAQS and the South Central Coast Air Basin (SCCAB) attainment status for ozone and particulate matter are summarized below in Table 6-2, Ambient Air Quality Standards and South Central Coast Air Basin Attainment Status. The SCCAB is in attainment or unclassified for all other criteria air pollutants.

Table 6-2. Ambient Air Quality Standards and SCCAB Attainment Status

Pollutant	Averaging Time	California AAQS (A) Standard (C)	California AAQS (A) Attainment Status (D)	National AAQS (B) Standard (C)	National AAQS (B) Attainment Status
Ozone	1-Hour	180 µg/m^3	**N**	–	–
Ozone	8-Hour	137 µg/m^3	**N**	137 µg/m^3	**N(D)**
PM_{10}	24-Hour	50 µg/m^3	**N**	150 µg/m^3	A
PM_{10}	Annual Average	20 µg/m^3	**N**	–	–
$PM_{2.5}$	24-Hour	–	–	35 µg/m^3	A
$PM_{2.5}$	Annual Average	12 µg/m^3	A	12 µg/m^3	A

Source: SLOAPCD 2019, modified by AECOM.

Notes: SCCAB = South Central Coast Air Basin; PM = particulate matter; µg/m^3 = micrograms per cubic meter; N= Nonattainment; A= Attainment.

(A) Table does not list CAAQS for CO, N_2O, SO_2, SO_X, lead, vinyl chloride, and visibility reducing particles. California standards for ozone and suspended PM_{10} and $PM_{2.5}$ are values that are not to be exceeded. For a listing of all CAAQS and NAAQS standards and SCCAB attainment status, see: https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/AttainmentStatus29January2019.pdf

(B) Standards shown are the primary NAAQS designed to protect public health.

(C) All standards are shown in terms of micrograms per cubic meter (µg/m^3) for comparison purposes.

(D) This non-attainment designation corresponds to Eastern San Luis Obispo County; Western San Luis Obispo County is in attainment. Specifically, San Luis Obispo County has been designated non-attainment east of the -120.4 deg Longitude line, in areas of San Luis Obispo County that are south of latitude 35.45 degrees, and east of the -120.3 degree Longitude line, in areas of San Luis Obispo County that are north of latitude 35.45 degrees. Oceano Dunes SVRA and Pismo State Beach are in the portion of San Luis Obispo County that is in attainment for federal ozone standards.

The SLOAPCD, the local agency charged with preserving air quality, divides San Luis Obispo County into different air quality regions that have similar geologic and meteorological conditions. Oceano Dunes SVRA and Pismo State Beach are located in the South County air quality region of San Luis Obispo County. The SLOAPCD maintains and operates three ambient air quality monitoring stations in the South County Region: CDF, Nipomo-Guadale Road (also identified as Mesa2), and Nipomo Regional Park (NRP). These stations measure ambient concentrations of PM_{10} and $PM_{2.5}$.

Of the three South County monitoring stations, CDF is the closest to Oceano Dunes SVRA, approximately 2 miles southeast of Oceano Dunes SVRA. The NRP station is the farthest away from Oceano Dunes SVRA, more than 5 miles southeast of the SVRA. Mesa2 is of middle proximity, approximately 4 miles southeast of the SVRA. A fourth monitoring station, referred to as the Oso Flaco monitoring station, was installed in 2015 and is operated by the OHMVR Division in the southeastern-most corner of the Oceano Dunes District boundary.

6.1.3 San Luis Obispo County Air Pollution Control District

The SLOAPCD has primary responsibility for regulating sources of air pollution situated within its jurisdictional boundaries. To this end, the SLOAPCD implements air quality programs required by state and federal mandates, enforces rules and regulations based on air pollution laws, and educates businesses and residents about their roles in protecting air quality.

6.1.3.1 2001 Clean Air Plan

In 2001, the SLOAPCD adopted its 2001 Clean Air Plan. This plan updates the 1998 Clean Air Plan and identifies control measures to reduce ROG and NOx emissions, precursors to ozone, as well as PM emissions. The 2001 Clean Air Plan identifies the control measures necessary to attain ozone air quality standards. The 2001 Clean Air Plan includes ozone precursor pollutant emissions of ROG and NO_X from mobile and area-wide emission sources in its reference (1991) and forecasted (2015) emissions inventories, and it plans for achieving attainment of air quality standards. Although some of the control measures set forth for controlling ROG and NO_X emissions have a co-benefit of reducing PM emissions, the plan does not identify any control measures solely related to the reductions of PM emissions. As stated in the 2001 Clean Air Plan, "The District expects to formally address PM_{10} nonattainment in future planning efforts" (SLOAPCD 2001).

6.1.3.2 Rules and Regulations

The following rules and regulations potentially apply to the proposed Oceano Dunes SVRA and Pismo State Beach PWP:

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

Rule 1001, Coastal Dunes Dust Control Requirements. Rule 1001, Coastal Dunes Dust Control Requirements, establishes standards for the operators of coastal dune vehicle activity areas greater than 100 acres in size. Section C of the SLOAPCD Rule 1001 outlines the rule's general requirements, which are:

1) Development and implementation of a Temporary Baseline Monitoring to determine existing PM_{10} concentrations at Air Pollution Control Officer (APCO)-approved Coastal Dune Vehicle Activity Areas and Control Site monitoring locations prior to implementing PM_{10} control measures and Compliance Monitoring.

2) Development and implementation of an APCO-approved Particulate Matter Reduction Plan (PMRP) that contains:

   a) An APCO-approved PM_{10} Compliance Monitoring network consisting of at least one Coastal Dune Vehicle Activity Areas Monitor and at least one Control Site Monitor;

   b) A description of all PM_{10} control measures that would be implemented to comply with the Rule 1001 performance standard (see requirement 3 below);

   c) An APCO-approved track-out prevention program that does not allow track-out of sand to extend 25 feet or more onto, and requires track-out to be removed from, paved public roadways;

3) Compliance with a performance standard that requires PM_{10} concentrations at the APCO-approved Coastal Dune Vehicle Activity Areas Monitor to be no more than 20 percent higher than the PM_{10} concentrations at the APCO-approved Control Site Monitor. The performance standard applies only when the 24-hour average PM_{10} concentrations at the approved Coastal Dune Vehicle Activity Areas Monitor exceeds 55 micrograms per cubic meter.

4) Complete all environmental review requirements and obtain land use agency approval for PMRP projects.

6.1.4 Stipulated Abatement Order, Case No. 17-01 and Draft PMRP

On September 10, 2017, the SLOAPCD filed a Petition for Abatement Order with the SLOAPCD Hearing Board against the OHMVR Division with regard to alleged nuisances as a result of PM emissions from Oceano Dunes SVRA (SLOAPCD 2018). The petition was heard at a number of Board meetings from November 13, 2017 to April 30, 2018 and resulted in the filing and issuance of the Stipulated Order of Abatement (SOA) Case No. 17-01, which was amended in November 2019. The following summarizes the primary components of the SOA:

5) Initial Particulate Matter Reduction Actions

   a) The OHMVR Division shall fence off specified portions of Oceano Dunes SVRA for dust control activities.

   b) The OHMVR Division shall install APCO-approved sand track-out control devices at the Grand and Pier Avenue entrances to Oceano Dunes SVRA by June 30, 2019.

6) Particulate Matter Reduction Plan (PMRP)

   a) The OHMVR Division shall develop and implement a PMRP over a four-year period that is designed to achieve state and federal ambient PM_{10} air quality standards.

b) The PMRP shall begin by establishing an initial target of reducing the maximum 24-hour PM_{10} baseline emissions by 50 percent[1]. The modeling demonstrating this reduction will be carried out by CARB or another modeling group approved by the Scientific Advisory Group (SAG) developed as a requirement of the SOA. The SAG is comprised of experts in the fields of dune morphology, aeolian erosion control, soil ecology, shoreline botany, biophysical sand crust formation, and air quality modeling, among other disciplines.

c) A draft PMRP was developed in June of 2019, and is currently being used towards meeting the requirements of the SOA.

7) Annual Report and Work Plan (ARWP)

a) On an annual basis (during PMRP implementation), the OHMVR Division shall develop, with assistance from the SAG, an Annual Report and Work Plan for APCO review and approval.

b) The Annual Reports and Work Plans shall include a detailed schedule of activities with deadlines on measures that will be taken for the upcoming year.

c) The Annual Reports shall summarize actions taken over the prior year, their effectiveness, and additional metrics or measures that may be needed to achieve reductions for the following year. Each Report will contain, using air quality modeling, the estimated reductions attributable to proposed dust control measures for the following year.

State Parks submitted a Draft PMRP to the SLOAPCD in June 2019 (CDPR 2019) which includes an implementation plan specifying actions that will be undertaken through December 2023. The types of control measures contemplated in the Draft PMRP generally include planting of native dune vegetation, installation and operation of sand track-out devices, and emplacement of porous fencing (i.e., wind fencing) and artificial roughness elements (e.g., strawbales). Attachment 8 of the Draft PMRP consists of a checklist that would be used to track the implementation of various measures, such as tracking how plant density changes over time in a new foredune area.

In addition to installing control measures, the Draft PMRP identifies seven supporting actions that would be undertaken to inform continued PMRP implementation. Such measures include, but are not limited to, updated PI-SWERL measurements, additional air quality monitoring, and collection of topographic and upper-air data. These supporting actions, which would be undertaken concurrently with control measures, would provide CDPR with new, high-resolution data that supports an adaptive management approach to dust control, as envisioned in the Draft PMRP.

In compliance with the November 2019 SOA amendments, State Parks fenced off 48 acres of shoreline area to vegetate or otherwise treat to create a foredune. Given that the foredune

[1] This stipulated emission reduction requirement of fifty percent is based on a modeling scenario for the period May 1, 2013 through August 31, 2013. This reduction requirement may be altered by the SAG in the future.

closure is within a prime camping location, CDPR has administratively reduced the number of daily camping units from 1,000 down to 500.

In March 2020, the SLOAPCD approved the 2019 ARWP, which outlines the 2020 Dust Control Projects based on the Scientific Advisory Group recommendations, and foredune project plantings and other 2020 mitigations were implemented. In October 2020, SLOAPCD issued a Conditional Approval of the 2020 Annual Report and Workplan required by the SOA, and, in November 2020, issued a conditional approval of 90 acres of dust control to be implemented as part of the 2020 Annual Report and Work Plan. The 2020 ARWP outlines the 2021 dust mitigation projects. PMRP implementation, including foredune development, is subject to the findings of ongoing CEQA review under the Oceano Dunes SVRA Dust Control Program EIR and 2020 Subsequent EIR (State Clearinghouse #2012121008), separate from the PWP.

6.2 Environmental Setting

Air quality is a function of pollutant emissions and topographic and meteorological influences. The physical features and atmospheric conditions of a landscape interact to affect the movement and dispersion of pollutants and determine its air quality. The PWP project area is located along the central coast of California, within the SCCAB. The SCCAB encompasses all of San Luis Obispo, Santa Barbara, and Ventura counties (approximately 8,000 square miles) and is bounded on the west and south by the Pacific Ocean. The SLOAPCD is the primary agency responsible for monitoring and maintaining air quality in the portion of the SCCAB where the project area is located, which is southwestern San Luis Obispo County.

Windblown dust in southwestern San Luis Obispo County is, and has been, an issue of focused public concern and academic research for more than a decade. PM emissions from Oceano Dunes SVRA have been subject to a number of regulatory requirements that have shaped the SVRA's environmental setting. Most recently, CDPR signed an SOA with the SLOAPCD Hearing Board to address PM emissions. As part of the ongoing implementation, State Parks submitted a Draft PMRP to the SLOAPCD in June 2019 (CDPR 2019) as well as Annual Report and Work Plans each year, as described in Section 6.1.4 above, designed to achieve state and federal air quality standards. Ongoing and future dust control actions that have been and will be implemented pursuant to this regulatory requirement would occur (at a minimum) during the first few years of the PWP implementation, through December 2023. Although future actions that would be implemented are still being determined, the dust control measures identified in the Draft PMRP and the Annual Report and Work Plans (see EIR section **Error! Reference source not found.**) will further change the environmental setting of PWP project area by implementing measures developed in consultation with scientific experts that will reduce PM emissions.

6.2.1 Topography, Climate, and Meteorology

Topography, climate, and meteorology throughout the SCCAB vary and are influenced by the basin's proximity to the Pacific Ocean and the Coast and Transverse ranges that trend in a general northwest-southeast and east-west orientation, respectively, within the basin. The SCCAB experiences a Mediterranean-type climate that is characterized by warm, dry summers and cool, wet winters. The north Pacific high-pressure system, a semi-permanent area of high pressure centered over the north Pacific Ocean, pushes storms to the north during the summer. During the winter, the pressure center moves south, bringing rain and cooler temperatures.

Near the coast, the Pacific Ocean influence results in typically moderate temperatures year-round. Average maximum temperatures in the summer are typically in the 60s and 70s; average minimum temperatures in winter are typically in the 40s and 50s. Precipitation near the coast averages between 15 and 25 inches per year. The Coast and Transverse ranges that run through the basin serve to keep inland portions of the SCCAB warmer and dryer. Although average minimum temperatures in inland areas also typically range from the 40s to 50s, average maximum temperatures are in the high 70s, and daily maximums can exceed 100 degrees Fahrenheit. Precipitation in inland portions of the SCCAB averages less than 15 inches per year.

6.2.2 Prevailing Winds, Saltation, and Dust Generation at Oceano Dunes SVRA

Along the coast of California, wind predominately blows from the west and northwest. These prevailing wind patterns are most pronounced from March through June. During this period, hourly average wind speeds often exceed 20 mph or more from mid-morning to late afternoon. The winds become light and variable at night and in the early morning hours.

Oceano Dunes SVRA is situated in the Guadalupe-Nipomo Dunes Complex, an approximately 18,000-acre, 18-mile-long coastal dune landscape that contains large, vegetated and unvegetated sand dunes subject to strong prevailing winds. According to the California Geological Survey, Oceano Dunes SVRA is located within the youngest, most active formations of the dune complex, where winds transport sand and dunes are actively migrating inland several feet per year (CGS, 2007). The dunes, including the area in which Oceano Dunes SVRA is located, are exposed to strong and frequent prevailing winds from the northwest (i.e., blowing towards the southeast), especially during the springtime (approximately March through June) (SLOAPCD 2007). These strong prevailing winds exert a force on the surface of the dunes that causes particles to move along the ground surface. This movement can take the form of sand creep, where sand grains are pushed along the ground surface, or saltation, in which sand grains are lifted by the wind, carried a short distance (generally a few inches to a few feet), and then fall back down to the ground surface. These processes can cause some particles to become suspended in the air and carried away downwind.

Generally, when winds exceed approximately 10 miles per hour, the sand grains in the unvegetated dunes that naturally form in the Guadalupe-Nipomo Dunes Complex begin to creep or saltate and generate dust and PM that can affect air quality.

6.2.3 Dust and PM Studies at Oceano Dunes SVRA

The SLOAPCD and the OHMVR Division have completed numerous studies that examined dust and PM generation at Oceano Dunes SVRA. In chronological order, these studies are briefly summarized below:

Nipomo Mesa Particulate Study (SLOAPCD, 2007). This SLOACPD study was designed to delineate the nature and extent of the high levels of PM concentrations observed by the SLOAPCD during air quality monitoring. The study concluded that the single largest contributor to the high levels of PM concentrations is the northwesterly winds that entrain crustal particles upwind from the Mesa and transport them to the Mesa.

South County Phase 2 Particulate Matter Study (SLOAPCD, 2010). This second SLOAPCD study was designed to determine if OHV activity at Oceano Dunes SVRA played a role in the high PM concentrations measured on the Nipomo Mesa. The study reported several

major findings, including findings that the primary source of high PM_{10} levels measured on the Nipomo Mesa is the open sand sheets in the dune areas of the coast.

Evaluation of the San Luis Obispo County Air Pollution Control District report, "South County Phase 2 Particulate Study," by the California Geological Survey (CGS, 2010). This is a review of the SLOAPCD Phase 2 study which found discrepancies and shortcomings in the Phase 2 report. It noted that the Phase 2 report conclusions were unsupported.

Oceano Dunes SVRA Pilot Project Study (DRI D. , 2011). This collaborative pilot project study evaluated the viability and effectiveness of three potential dust control strategies under consideration by the OHMVR Division and the SLOAPCD in 2011: established vegetation, artificial surface roughness (straw bales), and a comparison of undisturbed surfaces against surfaces disturbed by vehicle activity. The evaluation indicated that vegetation (90 to 99 percent control) and artificial surface roughness (40 to 70 percent control) were effective at reducing sand transport within the pilot project areas.

Overview of Scientific Concerns Regarding Rule 1001 by the SLOAPCD (CGS 2012). This memorandum by the California Geological Survey notes that the SLOAPCD's Rule 1001 is based on findings from the SLOAPCD's Phase 2 report. The memorandum summarizes specific findings presented in the Phase 2 report that were used as the basis for developing Rule 1001 and details why those findings are unsupported by data presented in the Phase 2 report.

South County Community Monitoring Project (SLOAPCD, 2013). This SLOAPCD study was designed and implemented to map differences in the spatial extent and concentrations of dust transported downwind of Oceano Dunes SVRA. In general, the study found that the spatial extent of the downwind dispersion of PM_{10} during high wind events varied, with the main variable being the severity of the PM_{10} concentrations. The study also concluded that wind direction near the shore is stronger and less variable than winds 5 miles inland, which shift to the south. The SLOAPCD uses the data collected by the study to prepare more detailed air quality forecasts for the Nipomo Mesa region. Based on the data, the SLOACPD identified four different forecast zones for the Nipomo Mesa that are related to the PM_{10} concentrations measured by the SLOAPCD's CDF, Mesa2, and NRP monitoring stations during the community monitoring project.

Wind and PM_{10} Characteristics at Oceano Dunes SVRA from the 2013 Assessment Monitoring Network (DRI D. , 2014). This OHMVR Division study involved 12 dust and meteorological monitoring sites intended to provide information on differences in dust and meteorological conditions at and near Oceano Dunes SVRA. In general, the study found that the strongest and most frequent winds were associated with winds from the northwest (280–326 degrees), that winds show a tendency to speed up as they move from west to east—most likely due to compression of the streamlines over the dunes that force the wind to accelerate, and that mean wind speeds and maximum wind gusts increase from north to south. The study also found that the highest levels of PM_{10} concentrations during the study were measured in the central to northern portion of the SVRA's open riding and camping area, in the La Grande tract. The study further documented wind direction in the dune complex tended to have a more westerly component near the shore in the northern section of the Pismo Dunes Natural Preserve than in the southern portion; the southern portion maintained higher frequency of winds from the west-northwest.

2013 Intensive Wind Erodibility Measurements at and Near the Oceano Dunes State Vehicular Recreation Area: Report of Findings (DRI D. , 2015a). This OHMVR Division study evaluated differences in emissivity[2] throughout Oceano Dunes SVRA and Pismo State Beach by utilizing a small, portable device that simulates wind shear on the dune surface (the Portable In-Situ Wind Erosion Lab, or PI-SWERL®). In general, the study found that potential PM_{10} emissions were highest within the La Grande tract. Although the study could not explain why PM_{10} emissivity within the La Grande tract was the highest, it did note that factors such as sand grain size, meteorology, and topography all influence PM_{10} emissions (both potential and actual).

Particle Size Distribution Characteristics and PI-SWERL PM10 Emission Measurements: Oceano Dunes State Vehicular Recreation Area (DRI D. , 2015b). This OHMVR Division study developed a detailed characterization of the particle size distribution at Oceano Dunes SVRA to evaluate if there were particle size characteristics that could be linked with the strength of the dust and PM_{10} emissions measured in previous studies. The study did not find a link between the amount of fine particle material (i.e., PM_{10}-sized) present in sediment and PM_{10} emissions; however, it did find that the observed increase in wind speeds from north to south at Oceano Dunes SVRA is associated with an increase in the mean particle diameter of the sand sized fraction of the sediment at Oceano Dunes SVRA. The report states "considering all data, i.e., temporary monitoring, PI-SWERL, and particle size data, [a] picture has emerged that generally describes the spatial variability of the PM_{10} emissions. The PM_{10} emissions measured with the PI-SWERL show a pattern that is corroborated by the temporary monitoring networks, with higher PM_{10} measurements [in the central to northern part of the open riding and camping area], being associated with areas that the PI-SWERL measurements have identified as having higher emission potential" (DRI D. , 2015b, p. 20).

Results of Sieve Analyses of Dune Sand Collected at Oceano Dunes SVRA and Vicinity (CGS 2015). The purpose of this investigation was to determine if there is a natural pattern of distribution of sand grain sizes in the dunes of the SVRA and to determine if sand grain size distribution varied by season. Findings indicated that sand grain size distribution is consistent with a wind regime where on average winds are lighter in the north and stronger in the south. That is, the sand is more fine in the north, where the onshore winds are lighter, and the grains become more coarse to the south where the strength of the onshore winds is greater.

Dust Control Project Oceano Dunes SVRA 2016 (DRI D. , 2015c). This OHMVR Division study evaluated the effectiveness of seasonal dust control measures installed at Oceano Dunes SVRA. The study concluded that seasonal dust control measures installed in 2015 were more effective than measures installed in 2014 and showed quantifiable reductions in PM_{10} concentrations due to the controls. Overall, the OHMVR Division's 2015 wind fence array reduced sand transport within the array by 73 percent on average and up to 87 percent for areas in the interior of the array. In addition, over the 3-month period the fencing was in place, the downwind concentration of PM_{10} at the trailing edge of the fence array was approximately 20–37 percent lower than the upwind PM_{10} concentration during moderate windy periods (approximately 10 to 12 miles per hour); during high wind conditions downwind concentrations were approximately 5–30 percent lower than concentrations upwind of the fence array.

[2] Emissivity, in this context, is generally a measure of emissions over a specific area and time.

Updated Wind Erodibility Measurements at and Near the Oceano Dunes State Vehicular Recreation Area: Draft Overview of Findings (DRI D. , 2016). This OHMVR Division study provided an update on a series of PI-SWERL measurements that were completed since the original measurements in 2013. The study discussed emissivity changes at the plover exclosure, an array of straw bales that were installed in 2014, the wind fence area installed in 2015, and other, previous PI-SWERL transect areas.

Examination of Potential Exposure Risk to Crystalline Silica (Kelse, 2017 and 2018). Because beach sand in California commonly contains grains of quartz, it had been presumed that dust emanating from the beach and dunes of the SVRA contained particles of silica. For these investigations, air filter samples were collected within the SVRA and at the SLOAPCD's CDF monitoring station and analyzed to determine the presence of crystalline silica. No samples collected contained silica. Laboratory results of air samples collected by the SLOAPCD at the CDF station were also examined. Based on the collected and reviewed data, it was concluded that "the presented and reviewed data provide no evidence of realistic pulmonary (inhalation) risk with respect to respirable crystalline silica."

2016 Aerosol Particle Profiler (APP) Monitoring Network: Summary of Findings (DRI, 2017). This OHMVR Division study summarized the results of monitoring conducted with environmental beta attenuation monitors (E-BAM) and six additional PM monitors during 2016 to better understand how well sand fencing and straw bales reduce ambient concentrations of PM within Oceano Dunes SVRA. In addition, the supplemental monitoring also provided a more complete picture of wind speed and direction along the path from Oceano Dunes SVRA to the SLOACPD's CDF monitoring station, located approximately 2 miles downwind of the SVRA, and examined how PM concentrations change over time and space as wind travels over the SVRA toward CDF. Two preliminary findings of the report were that: 1) for comparable winds, PM emissions are higher in the late summer than in early summer, (suggesting that a physical change in the emission system or environmental conditions create conditions for higher emissions); and 2) wind direction distributions across the network suggest PM concentrations measured at CDF are most influenced by a narrow, upwind source area from 290 to 295 degrees north-northwest and essentially follow a straight line from shore.[3]

University of California, San Diego, Supplemental Report 2020: Preliminary Results from May 2020 Aerosol Measurement. This report provides interim findings in year two of a three-year investigation by the University of California, San Diego, Scripps Institute of Oceanography. The purpose of the investigation is to determine marine and terrestrial sources contributing to airborne PM detected seasonally on Nipomo Mesa, downwind of the Oceano Dunes SVRA. As outlined in the report, ambient PM concentrations in the Oceano Dunes region is a mixture of organic and inorganic components from natural (sea spray and mineral dust from sand covered areas) and man-made (motor vehicles, residential and commercial activities, and seasonal agricultural harvesting and fertilizing) sources, as well as wildfires. The contribution from various sources varies with wind direction and other atmospheric conditions. Preliminary findings of the study indicate that mineral dust, on average on high PM days, accounts for 20

[3] Although Table 4 of the report identifies the upwind source area for the CDF monitoring station being 290° to 295° north-northwest, the confidence level is low, and the report states that confidence would be bolstered with additional years of data.

percent of the overall mass of $PM_{2.5}$ measured by the SLOAPCD CDF monitoring station. On lower PM days, the mineral dust mass is lower still. The report asserts that these findings support the fact that it is incorrect to assume that all $PM_{2.5}$ measured by the CDF monitor is mineral dust. During high wind episodes, $PM_{2.5}$ mass concentrations at CDF showed large contributions of sea spray and mineral dust PM; it should be noted that the findings indicated that the association of high PM with high wind conditions was persistent even when recreational vehicles were not allowed at Pismo State Beach and Oceano Dunes SVRA and therefore the high PM concentrations on high wind days are likely dominated by natural processes associated with the dune structure.

6.2.4 Air Quality Sensitive Receptors

Sensitive receptors are people that have an increased sensitivity to air pollution or environmental contaminants. A sensitive receptor is generically defined as a location where human populations, especially children, seniors, and sick persons are located and where there is reasonable expectation of continuous human exposure to air pollutants. These typically include schools, parks and playgrounds, day care centers, nursing homes, hospitals, and residential dwelling unit(s). For the purposes of this EIR, sensitive receptors include the residences on and around the Nipomo Mesa, downwind of Oceano Dunes SVRA and Pismo Beach, and schools including, but not limited to Lopez Continuation High School, Mesa Middle School, and Lange (Dorothea) Elementary School. While users of the Oceano Dunes SVRA and Pismo Beach could be exposed to emissions associated with activities under the PWP, these users would be on-site intermittently and for relatively short durations of time, and therefore not likely to be exposed to any potential substantial pollutant concentrations.

6.2.5 Naturally Occurring Asbestos

Asbestos is the name given to several naturally occurring fibrous silicate minerals. Asbestos is found in its natural state in rock or soil (known as naturally occurring asbestos [NOA]), typically in ultramafic or serpentine rock formations. At the point of release, the asbestos fibers may become airborne, causing air quality and human health hazards. The SLOAPCD has identified areas throughout the County where NOA may be present, of which the PWP area is not included. However, asbestos also has been mined for applications requiring thermal insulation, chemical and thermal stability, and high tensile strength. Asbestos containing materials could be encountered during the demolition of remodeling of existing structures or the disturbance, demolition, or relocation of above or below ground utility pipes/pipelines. Asbestos may have been used during the construction of existing structures that could be demolished by the proposed project. Discussion of potential impacts associated with asbestos-containing materials is contained in Section 12 of this EIR, “Hazards and Hazardous Materials.”

6.3 Project Impacts

Thresholds of Significance

Based on Appendix G of the CEQA Guidelines, the proposed PWP would have a significant air quality impact if it would:

a) Conflict with or obstruct implementation of the applicable air quality plan?

b) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard?

c) Expose sensitive receptors to substantial pollutant concentrations?

d) Result in other emissions (such as those leading to odors) adversely affecting a substantial number of people?

As detailed in Volume 3, Section 1, "Introduction," of this EIR, existing park operations are part of the environmental setting, including visitor use, visitor services, park operations and maintenance, and natural resource management. This EIR does not analyze specific impact of ongoing Park management. Where applicable, State Parks has completed CEQA compliance for ongoing operations, resource management activities, and for existing development within the Park. The PWP builds upon a foundation of park planning documents that required CEQA analysis, including but are not limited to the 2020 draft HCP and 2020 draft Particulate Matter Reduction Plan. Any environmental impacts that may be associated with current Park operations constitutes the baseline physical conditions by which State Parks is determining whether the physical change that occurs to the environment as a result of the proposed PWP is significant. In accordance with CEQA Guidelines section 15125(a), the environmental setting describes only those physical environmental conditions necessary to understand the significant effects of the proposed PWP and site-specific development project.

In April 2012, SLOAPCD developed and updated the CEQA Air Quality Handbook to ensure that environmental impacts from new development are addressed and adequately mitigated. The CEQA Handbook provides information on significance thresholds for determining potential air quality impacts from proposed development and provides recommendations on the level of mitigation necessary to reduce those impacts. SLOAPCD released a Clarification Memorandum in 2017 as an update and supplement to the CEQA Air Quality Handbook.

As stated in Appendix G of the CEQA Guidelines, the significance criteria established by the applicable air quality management district may be relied on to make the above determinations. Pursuant to the SLOAPCD-recommended thresholds for evaluating project-related air quality impacts, implementation of the PWP and proposed site-specific improvement projects would be considered to result in a significant impact for threshold *b)* if it would exceed the daily and quarterly mass emissions presented in Table 6-3 below.

Table 6-3. SLOAPCD Thresholds of Significance for Construction Emissions1

Pollutant	Daily (pounds)	Quarterly Tier 1 (tons)	Quarterly Tier 2 (tons)
ROG + NO_X (combined)	137	2.5	6.3
Diesel Particulate Matter (DPM)	7	0.13	0.32
Fugitive Particulate Matter (PM_{10})	--	2.5	--

Source: SLOAPCD 2012, 2017

Notes: SLOAPCD = San Luis Obispo County Air Pollution Control District; ROG = reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter that is 10 microns in diameter and smaller.

6.3.1 Impacts and Mitigation

6.3.1.1 Impacts from PWP Implementation

Implementation of the proposed PWP would not conflict with or obstruct implementation of the SLOAPCD 2001 Clean Air Plan. Oceano Dunes SVRA operates under daily vehicle limits established by CDP 4-82-300, most re recently amended and approved by CDP-4-81-300-A5 in 2001. The permit establishes the following daily limits on vehicles within Oceano Dunes SVRA: up to 2,580 street-legal vehicles, 1,000 street-legal vehicles for camping, and 1,720 OHVs). Due to recent installation of fencing for dust control that closes off over 48 acres of prime camping area[4], State Parks has administratively reduced camping permits to 500 vehicles. As detailed in Volume I, Section 3.6.5 of this EIR, actual use varies daily between weekday and weekend use, holiday use, and seasonal use. Under the PWP, interim use limits lower than the current permitted use limits in place to manage the Park are proposed until an updated carrying capacity survey is completed. As outlined in greater detail in Volume 1, Chapter 3, "The Plan," of this EIR, the PWP is intended to enhance operational efficiency and improve the visitor experience; however the PWP does not propose to increase park visitation, staffing, or related vehicle use levels, and may in fact reduce visitor use levels at least in the interim; the PWP is therefore consistent with the emission-generating characteristics and assumptions used by the SLOAPCD to forecast emissions in the 2001 Clean Air Plan, as well as the measures and strategies identified to reduce emissions. In addition, the proposed PWP would not conflict with or inhibit the ongoing actions unrelated to the proposed project to reduce PM; as explained above, programs and plans are in place and reviewed regularly in coordination with SLOAPCD to control and minimize indirect emissions of fugitive dust generated at Pismo State Beach and Ocean Dunes SVRA, and implementation of the PWP would be in alignment with those actions.

Implementation of the park management programs and plans under the proposed PWP will not generate a net increase of criteria air pollutants above existing conditions. Park facilities and grounds maintenance activities, as well as the programs and plans, as described in Section 3.5 of this EIR, under the proposed PWP have been occurring and presently occur in the PWP area, and, therefore, are considered part of the baseline conditions for this analysis. The Oceano Dunes District implements a program to control and minimize indirect emissions of fugitive dust PM generated at Pismo State Beach and Oceano Dunes SVRA during periods of intense, persistent winds and subsequently blown downwind of the SVRA and onto the Nipomo Mesa. To address windblown dust, State Parks has already implemented a series of dust control and monitoring measures in the Park, which will continue under the PWP. These measures, as detailed in Volume 2 of this EIR, "Existing Conditions," are intended to maintain and help reduce PM emissions from the Park, and therefore result in net reduction in PM over time.

Any increase in construction-related and operational criteria pollutant emissions that would result from PWP development projects and small development projects are individually addressed below in Section 6.3.1.2. Implementation of the PWP would not result in an increase in emissions nor conflict with or obstruct implementation of the SLOAPCD 2001 Clean Air Plan, and would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air

[4] The impacts of this recreation closure and other effects of dust control measures under CA-44 New PMRP are being assessed in a separate CEQA document

quality standard or expose sensitive receptors to substantial pollutant concentrations; therefore, there would be **no impact**.

Implementation of the proposed programs and plans under the PWP does not include any activities that would create objectionable odors. Any vehicle and equipment use is part of ongoing activities and considered part of the baseline conditions of the PWP area. In addition, these emissions sources, while they may result in odors associated with fuel combustion, are not typically considered substantial odor sources and would be temporary and short in duration. Implementation of the proposed PWP would not result in other emissions (such as those leading to odors) adversely affecting a substantial number of people; there is **no impact.**

6.1.1.1 Impacts from PWP Development Projects and Small Development Projects

Impact 6-1 Conflict with or Obstruct Implementation of the Applicable Air Quality Plan

The proposed Oso Flaco (Initial and Future) Improvement Projects, Corporation Yard Improvement Project, Oceano Campground Infrastructure Improvement Project, Pier and Grand Avenue Entrances and Lifeguard Towers Project, North Beach Campground Facility Improvements Project, Butterfly Grove Public Access Project, Pismo State Beach Boardwalk Project, Pismo Creek Estuary Seasonal (Floating) Bridge Installation, 40-Acre Riding Trail Installation, Replacement of the Safety and Education Center, Oso Flaco Boardwalk Replacement, Oceano Campground Campfire Center Replacement Project, Trash Exclosure at Post 2/Beach Trash Management, and Phillips 66/Southern Entrance Project under the PWP would not conflict with or obstruct implementation of the SLOAPCD 2001 Clean Air Plan. These site-specific improvement projects would not result in changes to park visitation or vehicle use levels. While Development Projects including the initial and future Oso Flaco Improvement Project could affect where in the Park visitors recreate and the distribution of staff to serve Park maintenance and operations (based on new maintenance facilities at the southern end of the Park at Oso Flaco), the available riding area is not changing and there is no data to suggest that the Development Projects would result in a tangible change in areas used for recreational purpose. Similarly, staff would be appropriately located to minimized travel between Park facilities and increase operational efficiencies. In addition, consistent with statewide regulations such as the Airborne Toxic Control Measure to Limit Diesel-Fueled Commercial Motor Vehicle Idling, project contractors are required to limit idling time and reduce associated emissions and the project would be subject to fugitive dust control practices to further reduce fugitive dust emissions consistent with SLOAPCD Rule 401, Visible Emissions, Rule 402, Nuisance, and Rule 403, Particulate Matter Emission Standards. In addition, as detailed in Impact 6-2 below, implementation of the PWP Development Projects and Small Development Projects would not exceed the thresholds established by SLOAPCD with consideration of the 2001 Clean Air Plan and achieving attainment status for the region. Thus, impacts related to the potential for conflicting with or obstructing implementation of the Clean Air Plan as a result of the proposed site-specific improvement projects are considered **less than significant**.

Mitigation Measures: No mitigation is required

Impact 6-2 Cumulatively Considerable Net Increase of Criteria Air Pollutants

Construction

Construction-related activities would generate emissions of criteria pollutants, precursors, and toxic air contaminants (TACs) from a variety of sources including off-road construction equipment, on-road vehicles, earthmoving activities, off-gas from paving activities, and application of architectural coatings. Construction of the proposed Oso Flaco (Initial and Future) Improvement Projects, Park Corporation Yard Improvement Project, Oceano Campground Infrastructure Improvement Project, Pier and Grand Avenue Entrances and Lifeguard Towers Project, North Beach Campground Facility Improvements Project, Butterfly Grove Public Access Project, Pismo State Beach Boardwalk Project, Pismo Creek Estuary Seasonal (Floating) Bridge Installation, 40-Acre Riding Trail Installation, Replacement of the Safety and Education Center, Oso Flaco Boardwalk Replacement, Oceano Campground Campfire Center Replacement Project, the Trash Exclosure at Post 2/Beach Trash Management, and the Phillips 66/Southern Entrance Project would generate emissions that would be short-term or temporary in duration for each individual site-specific improvement project. Construction related activities would generate temporary emissions of criteria air pollutants, including ROG, NO_X, and PM (diesel exhaust particulate matter [DPM] and fugitive dust PM_{10}). ROG, NO_X, and DPM are primarily associated with exhaust emissions from use of off-road equipment, material delivery, and construction worker commutes; ROG emissions are also associated with asphalt paving and application of architectural coatings. Fugitive dust PM_{10} emissions are associated with site preparation, earthmoving and travel on roads, and vary as a function of parameters such as soil silt content, soil moisture, wind speed, acreage of disturbance area, and miles traveled by construction vehicles.

Construction-related criteria air pollutant emissions for the proposed Oso Flaco (Initial and Future) Improvement Projects, Park Corporation Yard Improvement Project, Oceano Campground Infrastructure Improvement Project, Pier and Grand Avenue Entrances and Lifeguard Towers Project, North Beach Campground Facility Improvements Project, Butterfly Grove Public Access Project, Pismo State Beach Boardwalk Project, Pismo Creek Estuary Seasonal (Floating) Bridge Installation, 40-Acre Riding Trail Installation, Replacement of the Safety and Education Center, Oso Flaco Boardwalk Replacement, Oceano Campground Campfire Center Replacement Project, and the Trash Exclosure at Post 2/Beach Trash Management were quantified using the California Emissions Estimator Model (CalEEMod), Version 2016.3.2, which is the most current version of the SLOAPCD-recommended model for estimating construction and operational emissions. CalEEMod includes default assumptions for construction parameters, and also allows the user to input project-specific parameters. For each of the site-specific improvement projects, project-specific construction inputs included site acreage and structural square footage, where applicable. Where project-specific information was not available, default parameters provided by the model were used. Default assumptions provided by the model are typically conservative to avoid underestimating emissions.

Each site-specific improvement project was modeled independently by a single CalEEMod model run. The construction start year was based upon the best available anticipated construction timeline for the start year of each site-specific improvement project and anticipated construction duration. In the case that multiple site-specific improvement projects may be undertaken in the same year, maximum daily and quarterly emissions were estimated assuming that the construction timelines for these projects would overlap, thereby estimating the maximum potential concurrent daily and quarterly emissions. It should also be noted that the land uses associated with each of the site-specific

improvement projects are not necessarily typical of the categories for commercial, industrial, residential, or recreational land uses available for modeling in CalEEMod. However, the model still provides reasonable estimates of construction equipment and vehicle use and other construction-related emissions sources. In many cases, the CalEEMod defaults are quite conservative relative to the likely equipment use activity that would be required for much of the replacement and repair construction activities as well as for the basic building and facility infrastructure that would be built. In some cases, due to the very small site acreage, CalEEMod defaults did not capture the anticipated building construction worker trips, so these were increased to reflect the daily equipment use. Similarly, vendor and haul trucks were increased where appropriate to capture additional material deliveries and/or water trucks that would serve specific construction phases of each site-specific improvement project. It should be noted that the CalEEmod modeling did incorporate PM reduction for construction activities in the form of watering of exposed areas; the reduced PM emissions modeled by these mitigated scenarios were not used for the purposes of impact findings of significance, but do represent reasonable emissions reductions that would be achieved by best management practices and compliance with SLOAPCD Rules and Regulations.

Tables 6-4 and 6-5 summarize the maximum daily and quarterly, respectively, emissions of ROG, NO_X, DPM, and fugitive dust PM_{10} for each site-specific improvement project. Please refer to Appendix B of this Draft EIR for detailed model inputs, assumptions, and calculations.

As shown in Tables 6-4 and 6-5, the estimated emissions resulting from construction of the site-specific improvement projects would not exceed the applicable daily or quarterly thresholds for combined ROG and NO_X, DPM, or fugitive dust PM. Pursuant to the SLOAPCD guidelines, Rule 401 (Visible Emissions), and Rule 402 (Nuisance), the proposed site-specific improvement projects would be required to include measures to reduce emissions of fugitive dust during construction. Per SLOAPCD guidelines, projects with grading areas that are greater than 4 acres or are within 1,000 feet of any sensitive receptor will implement mitigation measures to manage fugitive dust emissions so as not to exceed the SLOAPCD's 20 percent opacity limit at any given time.

Construction activities can generate fugitive dust, which could be a nuisance to local residents and businesses in close proximity to and or downwind of the various site-specific improvement project sites. Although the emissions modeling demonstrates that thresholds are not anticipated to be exceeded, SLOAPCD recommends that all projects implement fugitive dust control measures. Therefore, without implementation of the SLOAPCD-recommended fugitive dust control measures, or other measures of equal or better effectiveness, this impact is considered **potentially significant**. Mitigation Measures 6-1 and 6-2 would ensure that fugitive dust mitigation measures are implemented at the PWP Development Project and Small Development Project sites; Mitigation Measure 6-1 would apply to site-specific improvement projects with grading areas that are less than 4 acres and that are not within 1,000 feet of any sensitive receptor; this would include Oso Flaco Improvement Projects, Trash Enclosure at Post 2/Beach Trash Management, Replacement of the Safety and Education Center, Oso Flaco Boardwalk Replacement, 40-Acre Riding Trail Installation, and Pismo State Beach Boardwalk Replacement. Mitigation Measure 6-2 would apply to Development Projects with grading areas that are greater than 4 acres or are within 1,000 feet of any sensitive receptor; this would include Pier & Grand Avenue Entrances and Lifeguard Towers Project, North Beach Campground Facility Improvements Project, Oceano Campground Campfire Center Replacement Project, Butterfly Grove Public Access Project, Oceano

Seasonal (Floating) Bridge. Implementation of Mitigation Measures 6-1 and 6-2 would further reduce fugitive dust emissions and ensure a **less-than-significant** impact**.**

Table 6-4. Maximum Daily Construction-Related Emissions Associated with Development Projects

Project	Construction Start Year	Construction Duration	ROG + NO_X (combined) (lbs/day)	DPM (lbs/day)
Pier & Grand Avenue Entrances and Lifeguard Towers	2021	3 months	20.18	0.45
Trash Enclosure at Post 2 / Beach Trash Management	2021	3 months	8.67	0.41
North Beach Campground Facility Improvements	2022	3 months	8.69	0.34
Oceano Campground Campfire Center Replacement	2022	3 months	9.20	0.37
Replacement of the Safety and Education Center	2022	3 months	10.93	0.35
Pismo State Beach Boardwalk	2022	6 months	39.37	1.02
Butterfly Grove Public Access	2023	3 months	11.17	0.36
Oceano Campground Infrastructure Improvement	2024	9 months	30.40	1.23
40-Acre Riding Trail Installation	2024	6 months	3.25	0.14
Oso Flaco Boardwalk Replacement	2024	6 months	4.50	0.29
Park Corporation Yard Improvement (Phase 1)	2025	9 months	37.54	1.09
Park Corporation Yard Improvement (Phase 2)	2025/2026	6 months	38.45	0.24
Oso Flaco (Initial) Improvement (Note that max daily assumes overlap of maximum trails/vegetation daily and maximum other construction daily emissions)	2026	2 years	38.50	1.31
Oso Flaco (Future) Improvement	2028	3 years	29.18	0.53
Pismo Creek Estuary Seasonal (Floating) Bridge Installation	Annually	3 days	4.50	0.11
Maximum Daily Emissions[1]			80.49	2.19
SLOAPCD-Recommended Threshold			137	7
Threshold Exceeded in Any Year?			No	No

Source: Modeled by AECOM, 2020

Notes: SLOAPCD = San Luis Obispo County Air Pollution Control District; ROG = reactive organic gases; NO_X = nitrogen oxide; lbs = pounds; PM_{10} = particulate matter that is 10 microns in diameter and smaller.

[1] Maximum daily emissions are estimated based upon the best available estimate of project implementation timing. The maximum daily emissions represented in Table 6-4 would occur in the year 2022 for DPM and 2025 for ROG + NO_X.

Table 6-5 Maximum Quarterly Construction-Related Emissions Associated with Development Projects

Project	Construction Start Year	Construction Duration	ROG + NO_X Combined tons/ quarter)	DPM (tons/ quarter)	Fugitive Dust PM_{10} (tons/ quarter)
Pier & Grand Avenue Entrances and Lifeguard Towers	2021	3 months	0.3072	0.0136	0.0067
Trash Enclosure at Post 2 / Beach Trash Management	2021	3 months	0.2698	0.0128	0.0039
North Beach Campground Facility Improvements	2022	6 months	0.1832	0.0145	0.0070
Oceano Campground Campfire Center Replacement	2022	3 months	0.2395	0.0111	0.0053
Replacement of the Safety and Education Center	2022	3 months	0.2434	0.0103	0.0049
Pismo State Beach Boardwalk	2022	6 months	0.5242	0.0373	0.1671
Butterfly Grove Public Access	2023	3 months	0.2230	0.0092	0.0037
Oceano Campground Infrastructure Improvement	2024	9 months	0.7949	0.0322	0.1379
40-Acre Riding Trail Installation	2024	6 months	0.1045	0.0125	0.0057
Oso Flaco Boardwalk Replacement	2024	6 months	0.4349	0.0421	0.0082
Park Corporation Yard Improvement (Phase 1)	2025	9 months	0.6474	0.0240	0.1713
Park Corporation Yard Improvement (Phase 2)	2025	9 months	0.2784	0.0066	0.0079
Oso Flaco (Initial) Improvement	2026	1 to 2 years	0.9175	0.0546	0.2670
Oso Flaco (Future) Improvement	2028	2 to 3 years	0.5131	0.0692	0.0744
Pismo Creek Estuary Seasonal (Floating) Bridge Installation	Annually	3 days	0.0129	0.0003	0.0005
Maximum Quarterly Emissions[1]			1.35	0.09	0.27
SLOAPCD-Recommended Threshold			2.5	0.13	0.32
Threshold Exceeded in Any Year?			No	No	No

Source: Modeled by AECOM, 2020

Notes: SLOAPCD = San Luis Obispo County Air Pollution Control District; ROG = reactive organic gases; NO_X = nitrogen oxide; PM_{10} = particulate matter that is 10 microns in diameter and smaller.

[1] Maximum quarterly emissions are estimated based upon the best available estimate of project implementation timing. The maximum quarterly emissions represented here would occur in the year 2044 for DPM and ROG + NO_X, and in 2026 for fugitive dust PM.

Operations

The proposed site-specific projects are primarily construction-only projects and most building and utility construction would be for the purpose of replacing existing infrastructure that is several years old; the replacement buildings would meet current, increasingly stringent State building efficiency requirements under the California Building Standards Code. The replacement infrastructure, therefore, would be anticipated to be more energy efficient than the existing infrastructure and generate a net decrease in long-term indirect operational emissions associated with energy consumption.

Operationally, and in the long-term, the proposed PWP Development Projects would maintain and improve pedestrian and bicycle access. The PWP also includes internal public access improvements for the public trail system within the Park. The proposed Butterfly Grove Public Access Project will improve visitor access and amenities, including development of a new ADA compliant pedestrian entrance and foot path from SR 1 to the Grove's visitor gathering area, with interpretive and wayfinding signage; enhanced bike trails; installation of new and additional bike parking racks; installation of new and improvements to existing interpretive and wayfinding signage within the Grove and along SR 1; new vehicle parking area with 12 to 16 parking stalls, including ADA compliant parking stalls, and pervious surfacing; and a new visitor drop off/loading zone in front of the new pedestrian entrance. The proposed PWP improvements would also enhance trail connections to the City of Grover Beach, where enhance multi-use trails to and through Pismo State Beach which will interconnect with trails leading to the North Beach Campground to the Grand Avenue entrance in Grover Beach and beyond. These improvements would facilitate multi-modal transportation options for travel to and through the Park and adjacent communities, and assist in alleviating potential congestion along the adjacent Grand Avenue corridor, thereby reducing energy consumption and air pollutant emissions associated with vehicle travel.

New buildings (not replacement) would be constructed under the Park Corporation Yard Improvement Project and the Oso Flaco Improvement Project. Emissions associated with these buildings were estimated using CalEEMod, using the estimated building square footage and CalEEMod default parameters. It should also be noted that the land uses associated with each of the site-specific improvement projects are not necessarily typical of the categories for commercial, industrial, residential, or recreational land uses available for modeling in CalEEMod. The most comparable land use type was used in CalEEMod to reflect the type of use and structure proposed. As discussed in Section 6.3.1.1 above, there would not be a net increase in staffing or Park visitors, and therefore, mobile emissions were not considered for the purpose of this analysis and were zeroed out in CalEEMod.

Tables 6-6 summarizes the maximum daily emissions of ROG and NO_X combined, DPM, fugitive dust $PM_{10,}$ and carbon monoxide that would be generated by new buildings and infrastructure under the Oso Flaco Improvement Project and the Park Corporation Yard Improvement Project. Table 6-7 summarizes the annual emissions of ROG and NO_X combined and fugitive dust PM_{10} that would be generated by new buildings and infrastructure under the Oso Flaco Improvement Project and the Park Corporation Yard Improvement Project. Please refer to Appendix B for detailed model inputs, assumptions, and calculations.

Table 6-6. Maximum Daily Operational Emissions Associated with Site-Specific Improvement Projects

Project	ROG + NO_X (pounds per day)	DPM (pounds per day)	Fugitive Dust PM_{10} (pounds per day)	Carbon Monoxide
Park Corporation Yard Improvement Phase 1	0.313	0.002	0.000	0.025
Park Corporation Yard Improvement Phase 2	0.264	0.002	0.000	0.023
Oso Flaco (Initial) Improvement	0.242	0.001	0.000	0.011
Oso Flaco (Future) Improvement	1.120	0.015	0.000	0.168
Total	**1.938**	**0.020**	**0.000**	**0.227**
SLOAPCD-Recommended Threshold	25	1.25	25	550
Exceed Threshold?	No	No	No	No

Source: Modeled by AECOM, 2020

Notes: SLOAPCD = San Luis Obispo County Air Pollution Control District; ROG = reactive organic gases; NO_X = nitrogen oxide; DPM = Diesel Particulate Matter; PM_{10} = particulate matter that is 10 microns in diameter and smaller.

Table 6-7. Annual Operational Emissions Associated with Site-Specific Improvement Projects

Project	ROG + NO_X (tons per year)	Fugitive Dust PM_{10} (tons per year)
Park Corporation Yard Phase 1	0.057	0
Park Corporation Yard Phase 2	0.048	0
Oso Flaco Initial Improvement	0.044	0
Oso Flaco Future Improvement	0.203	0
Total	**0.352**	**0**
SLOAPCD-Recommended Threshold	25	25
Exceed Threshold?	No	No

Source: Modeled by AECOM, 2020

Notes: SLOAPCD = San Luis Obispo County Air Pollution Control District; ROG = reactive organic gases; NOX = nitrogen oxide; DPM = Diesel Particulate Matter; PM10 = particulate matter that is 10 microns in diameter and smaller.

As shown in Tables 6-6 and 6-7, new buildings and infrastructure would not generate emissions that exceed the SLOAPCD thresholds. There would not be a net increase in visitor or staff vehicle operations, and therefore no expected increase in fugitive dust emissions related to vehicle use. Long-term operations associated with the site-specific improvement projects would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard; this impact is **less than significant**.

The Phillips 66/ Southern Entrance Project could involve additional construction and operations, if it moves forward. Construction would be temporary, and emissions would stop at the end of the construction duration. Construction would be anticipated to occur several years into the future, not likely concurrently with other Development Projects included

in Tables 6-1 and 6-2. Construction equipment that would serve projects further in the future are likely to be less emissive than the current average construction fleet due to incorporation of more equipment that meets more recent CARB emissions standards and uses cleaner burning fuel. Operations would not occur until after construction. However, there is not enough information available at the time of this analysis regarding anticipated construction requirements and future operations to support a detailed analysis. Additional environmental analysis including detailed modelling to estimate impacts would be conducted at a future time.

Mitigation Measure 6-1: Fugitive Dust Mitigation Measures for Projects with Grading Areas Less than 4-acres and Not Within 1,000 Feet of any Sensitive Receptor.

To mitigate fugitive dust emissions generated by construction activities, the following shall be implemented at site-specific improvement project construction sites:

a. Reduce the amount of the disturbed area where possible;

b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible;

c. All dirt stock-pile areas should be sprayed daily as needed;

d. All roadways, driveways, sidewalks, etc., to be paved should be completed as soon as possible, and building pads should be laid as soon as possible after grading unless seeding or soil binders are used.

e. All of these fugitive dust mitigation measures shall be shown on grading a building plans; and

f. The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity, and to prevent the transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress.

Mitigation Measure 6-2: Fugitive Dust Mitigation Measures for Projects with Grading Areas Greater than 4-acres or Within 1,000 Feet of any Sensitive Receptor.

To mitigate fugitive dust emissions generated by construction activities, the following shall be implemented at site-specific improvement project construction sites:

a. Reduce the amount of the disturbed area where possible;

b. Use of water trucks or sprinkler systems in sufficient quantities to prevent airborne dust from leaving the site. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible;

c. All dirt stock-pile areas should be sprayed daily as needed;

d. Permanent dust control measures identified in the approved project revegetation and landscape plans should be implemented as soon as possible following completion of any soil disturbing activities;

e. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown with a fast germinating, non-invasive grass seed and watered until vegetation is established;

f. All disturbed soil areas not subject to revegetation should be stabilized using approved chemical soil binders, jute netting, or other methods approved in advance by the SLOAPCD;

g. All roadways, driveways, sidewalks, etc. to be paved should be completed as soon as possible. In addition, building pads should be laid as soon as possible after grading unless seeding or soil binders are used;

h. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;

i. All trucks hauling dirt, sand, soil, or other loose materials are to be covered or should maintain at least two feet of freeboard (minimum vertical distance between top of load and top of trailer) in accordance with CVC Section 23114;

j. Install wheel washers where vehicles enter and exit unpaved roads onto streets, or wash off trucks and equipment leaving the site;

k. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers with reclaimed water should be used where feasible;

l. All of these fugitive dust mitigation measures shall be shown on grading and building plans; and

m. The contractor or builder shall designate a person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize dust complaints, reduce visible emissions below 20 percent opacity, and to prevent transport of dust offsite. Their duties shall include holidays and weekend periods when work may not be in progress. The name and telephone number of such persons shall be provided to the SLOAPCD Compliance Division prior to the start of any grading, earthwork or demolition.

Impact 6-3 Expose Sensitive Receptors to Substantial Pollutant Concentrations

Some land uses are considered more sensitive to air pollution than others, due to the types of population groups or activities involved. Children, pregnant women, the elderly, those with existing health conditions, and athletes or others who engage in frequent exercise are especially vulnerable to the effects of air pollution. Accordingly, land uses that typically include sensitive receptors include schools, daycare centers, parks and playgrounds, and medical facilities.

Residential areas are considered sensitive to air pollution because residents (including children and the elderly) tend to be at home for extended periods of

time, resulting in sustained exposure to pollutants present. Recreational land uses are considered moderately sensitive to air pollution. Exercise places a high demand on respiratory functions, which can be impaired by air pollution, even though exposure periods during exercise are generally short. In addition, noticeable air pollution can detract from the enjoyment of recreation. Industrial and commercial areas are considered the least sensitive to air pollution. Exposure periods are relatively short and intermittent as most of the workers tend to stay indoors most of the time.

Operations of new and replacement buildings and infrastructure would not include sources of substantial TAC emissions. As described above and shown in Tables 6-1 and 6-2, construction activities would not result in emissions of criteria air pollutants that exceed the SLOAPCD thresholds of significance. In addition to criteria air pollutants, U.S. EPA and CARB regulate TACs; the greatest potential for TAC emissions during construction would be related to DPM emissions associated with heavy-duty equipment operations. As shown in Tables 6-4 and 6-5, potential DPM emissions from construction of the site-specific improvement projects would not exceed the SLOAPCD threshold for DPM.

Generation of DPM from construction projects typically occurs in a single area (e.g., at the project site) for a short period of time, but could also include linear infrastructure projects to support new land uses. Concentrations of mobile-source DPM emissions are typically reduced by 70 percent at a distance of approximately 500 feet (CARB 2005). Therefore, even in intensive phases of construction, any potential substantial DPM concentrations would be limited to the immediate vicinity of the construction site. In addition, the dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance; a longer exposure period to a fixed amount of emissions would result in higher health risks for the maximally exposed individual. According to the Office of Environmental Health Hazard Assessment (OEHHA), health risk assessments used to determine the exposure of sensitive receptors to TAC emissions should be based on a 30-year exposure period. As explained below, the projects range from approximately 3-months to 2 years in duration at any given site, with the majority lasting less than one year.

The nearest sensitive receptors for each Development Project varies in location and distance from the project site. The nearest sensitive receptor to the Oso Flaco (Initial and Future) Improvement Projects, Park Corporation Yard Improvement Project, Oceano Campground Infrastructure Improvement Project, Pismo State Beach Boardwalk Project, 40-Acre Riding Trail Installation, Replacement of the Safety and Education Center, Oso Flaco Boardwalk Replacement, Oceano Campground Campfire Center Replacement Project, the Trash Exclosure at Post 2/Beach Trash Management would range from approximately 500 feet to greater than 1,000 feet at the closest point between the project site and sensitive receptors. In addition, except for the Oso Flaco Improvement Projects, construction activities associated with each of these projects is anticipated to be nine months or less, thereby limiting the potential exposure period. Due to the distance between these project sites and sensitive receptors, and the short duration of construction activity for these projects, construction activities would not be anticipated to expose sensitive receptors to substantial TAC emissions.

The Pier & Grand Avenue Entrances and Lifeguard Towers Project would include construction activity as close as 50 feet to a restaurant on Grand Avenue with outdoor seating, 75 feet to a fast throughput restaurant on Pier Avenue, and approximately 200 feet to

vacation rental homes on Strand Avenue off of Pier Avenue. Similarly, the North Beach Campground Facility Improvements Project would include construction activity approximately 30 feet south of an RV resort and 300 feet west of a travel trailer park. The Butterfly Grove Public Access Project would include construction activity approximately 20 feet north of residences. However, as noted above, the dose to which receptors are exposed is the primary factor used to determine health risk. Dose is a function of the concentration of a substance in the environment and the extent of exposure a person has with the substance. These Development Projects are anticipated to take approximately 3 to 6 months to implement. The Pismo Creek Estuary Seasonal (Floating) Bridge Installation would also occur within approximately 150 feet of the western perimeter of a RV resort, but this activity would only take two to three days at any given time. In addition, as detailed in Table 6-1, the maximum daily emissions of DPM, which would not be the typical emissions rate over the entire construction periods, would be less than 0.5 pounds per day for any of these projects; this is less than 8 percent of the SLOAPCD daily threshold; similarly, the maximum quarterly emissions of DPM from these construction activities would be less than 0.015 tons, which is less than 11 percent of the SLOAPCD daily threshold. As such, construction activities would not be anticipated to expose sensitive receptors to substantial TAC concentrations and this impact is **less than significant**.

The Phillips 66/ Southern Entrance Project could involve additional construction, if it moves forward. Construction would be temporary, and emissions would stop at the end of the construction duration. Construction would be anticipated to occur several years into the future, not likely concurrently with other Development Projects included in Tables 6-1 and 6-2. Construction equipment that would serve projects further in the future are likely to be less emissive than the current average construction fleet due to incorporation of more equipment that meets more recent CARB emissions standards and uses cleaner burning fuel. However, there is not enough information available at the time of this analysis regarding anticipated construction requirements and future operations to support a detailed analysis; while total acreages are estimated, the potential for demolition or re-use of any existing buildings on-site is currently unknown, requirements for grading, trenching, and cut and fill are also unknown. In addition, future ground surveys would be needed to determine site constraints and opportunities, refine proposed facilities, evaluate re-use of existing site infrastructure and utilities, or add additional functional components to the site concept. Additional environmental analysis including detailed modelling to estimate impacts would be conducted at a future time.

Mitigation Measures: No mitigation is required

Impact 6-4 Result in Other Emissions (Such as Those Leading to Odors) Adversely Affecting a Substantial Number of People

Construction activities for the PWP Development Projects and Small Development Projects would include the use of diesel-powered equipment and vehicles, which can result in odors associated with fuel combustion needed to power the vehicle. Odors from these sources would be localized and generally confined to the immediate area surrounding any given project site. Exhaust odors from diesel engines, as well as emissions associated with asphalt paving and the application of architectural coatings, may be considered offensive to some individuals. However, odors associated with diesel fumes, asphalt paving, and architectural coatings would be temporary and would disperse rapidly with distance from the source. These

odors would not adversely affect a substantial number of people; there is **no impact**.

Operationally, the following land use types are widely considered major sources of odors: wastewater treatment and pumping facilities, chemical manufacturing facilities, sanitary landfills, fiberglass manufacturing facilities, transfer stations, painting/coating operations (e.g., auto body shops), composting facilities, food processing facilities, confined animal facilities, and asphalt batch plants. This list is meant not to be entirely inclusive, but to act as general guidance. The proposed site-specific projects are primarily construction-only projects and most building and utility construction would be for the purpose of replacing existing infrastructure that is several years old. New (not replacement or improvement) buildings and facilities would not include uses that would generate emissions leading to odors; there is **no impact**.

Mitigation Measures: No mitigation is required

6.4 Cumulative Effects

The geographic scope for air quality is the SCCAB. The SCCAB is in nonattainment for ozone and PM_{10}. As discussed above in Section 6.1, "Regulatory Setting," the SLOAPCD 2001 Clean Air Plan identifies control measures, specifically from mobile and area-wide emission sources, necessary to attain ozone air quality standards. Although some of the control measures set forth for controlling ROG and NO_X emissions have a co-benefit of reducing PM emissions, the plan does not identify any control measures solely related to the reductions of PM emissions. New development that would result in greater air pollutant emissions than assumed in regional air quality plans could contribute to cumulative air quality impacts.

By its very nature, air pollution is largely a cumulative impact. No single project is sufficient in size to, by itself, to result in nonattainment of regional ambient air quality standards. Instead a project's individual emissions contribute to overall air quality conditions. The nonattainment status of regional pollutants is a result of past and present development within the air basin. Ongoing development and operation of new land uses would generate additional emissions of ozone precursors (ROG and NO_X) and PM, which may adversely affect the region's ability to achieve attainment of the applicable air quality standards, representing a significant cumulative impact. A project is considered to result in a cumulatively considerable net increase of criteria air pollutants if project-related emissions would exceed the SLOAPCD thresholds of significance, which were developed based on the California Health & Safety Code Division 26, Part 3, Chapter 10, Section 40918 (Air Pollution Control District Plans to Attain State Ambient Air Quality Standards), and the CARB Carl Moyer Guidelines for DPM.

Depending on construction schedules and actual implementation of projects in the area, as listed in Table 3-1, generation of fugitive dust and criteria air pollutant emissions during construction and from resulting operations could result in substantial short-term and long-term increases in air pollutants. However, as described in impact 6-2, the PWP and site-specific improvement projects would not exceed the SLOAPCD thresholds of significance during construction or operations. Implementation of the PWP and its associated Development project would not affect implementation of the Dust Control Program or HCP implementation and therefore would not result in a new direct or indirect cumulative impact. Therefore, the proposed PWP and site-specific improvement projects would not impede attainment of the ambient air quality standards or air quality attainment plan, and would have a **less than cumulatively considerable** contribution to air quality impacts.