



COUNTY
of SAN LUIS
OBISPO

Phillips 66 Santa Maria Refinery Demolition and Remediation Project Draft Environmental Impact Report

State Clearinghouse # 2023050020

Development Plan/Coastal Development Permit

C-DRC2022-00048/ED23-054

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Draft

Environmental Impact Report
Phillips 66 Santa Maria Refinery
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Appendices

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Appendix B – Notice of Preparation and Comment Letters and Matrix

Appendix C – Air Quality and Greenhouse Gas Emissions Information

Appendix D – Biological Resources Information

Appendix E – Noise Impact Assessment

List of Abbreviations and Acronyms

Abbreviation	Definition
°C	degrees Celsius
°F	degrees Fahrenheit
AB	Assembly Bill
AFFF	aqueous film forming foams
AFY	acre-feet per year
APN	Assessor’s Parcel Number
Applicant	Phillips 66 Company
ATCM	Air Toxics Control Measure
BACT	best available control technology
BMP	best management practice
BRAMMP	Biological Resources Adaptive Management and Monitoring Plan
CAAQS	California Ambient Air Quality Standards
CalARP	California Accidental Release Prevention
CalEPA	California Environmental Protection Agency
CAL FIRE	California Department of Forestry and Fire Protection
CalGEM	California Department of Conservation Geologic Energy Management Division
Cal-IPC	California Invasive Plant Council
Cal/OSHA	California Division of Occupational Safety and Health
CalRecycle	California Department of Resources Recycling and Recovery
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Officers Association
CARB	California Air Resources Board
CBC	California Building Code
CCAA	California Clean Air Act
CCC	California Coastal Commission
CCR	California Code of Regulations
CDFW	California Department of Fish and Wildlife
CDOC	California Department of Conservation
CDP	Coastal Development Permit
CDPR	California Department of Parks and Recreation
CEC	California Energy Commission
CESA	California Endangered Species Act
CEQA	California Environmental Quality Act
CFC	California Fire Code
CFR	Code of Federal Regulations
CGP	Construction General Permit
CGS	California Geological Survey
CH ₄	methane
CNEL	Community Noise Equivalent Level
CO	carbon monoxide
CO ₂	carbon dioxide
CO ₂ e	carbon dioxide equivalent
COD	chemical oxygen demand
COSE	County General Plan Conservation and Open Space Element
County	County of San Luis Obispo
CPUC	California Public Utilities Commission
CRHR	California Register of Historical Resources

List of Abbreviations and Acronyms

Abbreviation	Definition
CRMDP	Cultural Resources Monitoring and Discovery Plan
CSLC	California State Lands Commission
CUPA	Certified Unified Program Agency
CWA	Clean Water Act
CZLUO	Coastal Zone Land Use Ordinance
dB	decibel
dBA	A-weighted decibel
Decommissioning	Facility shut-down activities. During facility shut-down, the Refinery will cease operations, isolate process-related equipment and piping, remove bulk materials, and decontaminate process equipment and piping. Refinery shut-down and decommissioning are permitted activities under existing permits and are not a part of this CDP application.
Decontamination	Facility shut-down activities that entail clearing and cleaning of process equipment and piping. Decontamination is a permitted activity under existing permits and is not a part of this CDP application.
Demolition	Physical removal of aboveground and belowground Refinery facilities. Demolition occurs after decommissioning.
DP	Development Plan
DPM	diesel particulate matter
DRAMP	Demolition & Remediation Activity Management Plan
DTSC	Department of Toxic Substances Control
EIR	Environmental Impact Report
ESHA	Environmentally Sensitive Habitat Areas
ESL	environmental screening levels
FHWA	Federal Highway Administration
FMMP	Farmland Mapping and Monitoring Program
FTA	Federal Transportation Administration
GHG	greenhouse gas
GWP	global warming potential
GWRP	Groundwater Remediation Project
HMBP	hazardous materials business plan
HRA	health risk assessment
HRRP	Habitat Restoration and Revegetation Plan
HSC	Health and Safety Code
Hz	hertz
IGP	Industrial General Permit
IPCC	United Nations Intergovernmental Panel on Climate Change
LCP	Local Coastal Program
Ldn	Day-Night Average Level
Leq	Equivalent Continuous Sound Level
Lmax	maximum instantaneous noise level
Lmin	minimum instantaneous noise level
LMUSD	Lucia Mar Unified School District
LNAPL	light non-aqueous phase liquid
LOS	level of service
LUE	County General Plan Land Use Element
MLD	Most Likely Descendant
MM	mitigation measure
MMRP	Mitigation Monitoring and Reporting Program
MMTCO ₂ e	million metric tons carbon dioxide equivalent

List of Abbreviations and Acronyms

Abbreviation	Definition
MT/yr	metric tons per year
MWh	megawatt-hour
NA	not applicable
NAAQS	National Ambient Air Quality Standards
NAHC	Native American Heritage Commission
NIWS	Northern Inactive Waste Site
NFPA	National Fire Protection Association
NMMA	Nipomo Mesa Management Area
NOAA	National Oceanic and Atmospheric Administration
NOP	Notice of Preparation
NO _x	nitric oxides
NPDES	National Pollutant Discharge Elimination System
NRCS	National Resources Conservation Service
NRHP	National Register of Historic Places
ODSVRA	Oceano Dunes State Vehicular Recreation Area
OEC	On-site Environmental Coordinator
OEHHA	Office of Environmental Health Hazard Assessment
OHV	Off-highway vehicle
OM&M Plan	Operation, Monitoring, and Maintenance Plan
OPR	California Office of Planning and Research
OSFM	California Office of the State Fire Marshal
OSHA	Occupational Safety and Health Administration
OWTS	onsite wastewater treatment systems
PFAS	per-and polyfluoralkyl substances
PG&E	Pacific Gas and Electric Company
PHMSA	Pipeline and Hazardous Materials Safety Administration
PM	particulate matter
ppm	parts per million
PPV	peak particle velocity
PRC	Public Resources Code
Project	Phillips 66 Santa Maria Refinery Demolition and Remediation Project
PTC	Permit to Construct
PTO	Permit to Operate
QSP	Qualified Storm Water Practitioner
RCNM	Roadway Construction Noise Model
Refinery	Santa Maria Refinery
Remediation	Site characterization and removal and disposal of hydrocarbon-impacted soil or other contaminated materials.
Restoration	Restoration of impacted land with a combination of short-term and long-term revegetation, erosion and sediment control measures, and dust control measures. Restoration will occur directly after remediation.
RMP	Risk Management Program
ROG	reactive organic gases
RTP	Regional Transportation Plan
RWQCB	Regional Water Quality Control Board
SB	Senate Bill
SLOCAPCD	San Luis Obispo County Air Pollution Control District
SLOCOG	San Luis Obispo Council of Governments
SLR	sea level rise

Table of Contents

List of Abbreviations and Acronyms

Abbreviation	Definition
SMGB	Santa Maria Groundwater Basin
SMR	Santa Maria Refinery
SoCalGas	Southern California Gas Company
SO _x	sulfur oxides
SPCC	Spill Prevention, Control and Countermeasure
SR	State Route
SRA	State Responsibility Area
SWPPP	Stormwater Pollution Prevention Plan
SWRCB	State Water Resources Control Board
TAC	Toxic Air Contaminants
TDS	total dissolved solids
TMDL	total maximum daily load
UPRR	Union Pacific Railroad
USDA	United States Department of Agriculture
U.S. DOT	United States Department of Transportation
U.S. EPA	United States Environmental Protection Agency
USGS	United States Geological Survey
USFWS	United States Fish and Wildlife Service
VMT	vehicle miles traveled
WEAP	Worker Environmental Awareness Program
WET	water effluent treatment
WMP	Weed Management Plan
WWTF	wastewater treatment facility
µg/m ³	microgram per cubic meter

Executive Summary

This Draft Environmental Impact Report (EIR) has been prepared to address the proposed Phillips 66 Santa Maria Refinery Demolition and Remediation Project (Project). The applicant for the Project is Phillips 66 Company (Phillips 66 or the Applicant). The Santa Maria Refinery (SMR) is located in the southwestern corner of the County of San Luis Obispo (County), approximately one mile southwest of State Route 1, and approximately 3.5 miles west of the community of Nipomo, in the South County Coastal and South County Inland planning areas.

The location of the SMR is shown in Figure ES-1.

The purpose of the Executive Summary is to provide the reader with a brief overview of the Project, the anticipated environmental effects, and the potential mitigation measures that could reduce the severity of the identified impacts. The reader should not, however, rely exclusively on the Executive Summary as the sole basis for judgment of the Project.

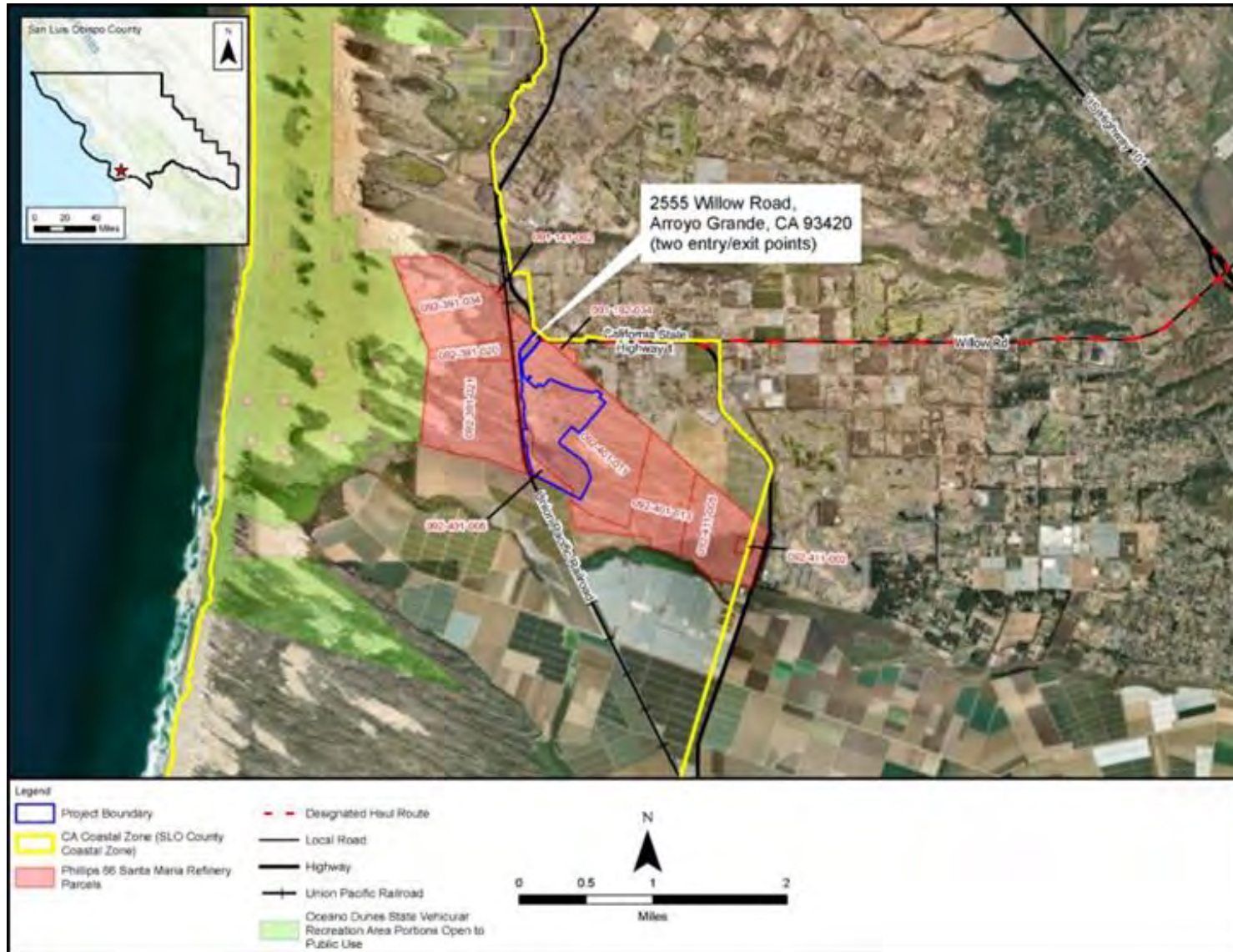
This Draft EIR is consistent with Section 15120–15132 of the California Environmental Quality Act (CEQA) Guidelines which sets forth requirements for contents of EIRs. Based upon the environmental impact analysis of the Project, a number of measures have been developed to mitigate the identified impacts associated with the Project. The County may incorporate the mitigation measures identified in the Draft EIR, where applicable, as conditions of approval in Project entitlements which may be granted for the Project. The environmental impact analysis will be used by the public and decision makers to help understand the scope of the Project and the associated environmental effects.

Proposed Project

Phillips 66 proposes to demolish aboveground infrastructure at the SMR and remediate the site. The Project is located at 2555 Willow Road (State Route 1) in an unincorporated area of the County, near Arroyo Grande and Nipomo, and approximately five miles west of U.S. Highway 101. The SMR site is located within the coastal zone.

The SMR was built in 1955 and operated continuously until January 2023. The SMR site includes petroleum storage and processing facilities for high-sulfur heavy crude oil. The crude oil was delivered primarily from offshore platforms along the California coast and oil fields in and near the Santa Maria Valley. The majority of crude oil was delivered to the SMR by pipeline; the remainder, which was approximately 2,000 barrels per day of petroleum-based products, was delivered by truck. Semi-refined liquid products from the SMR were transported by pipeline as feedstocks to the Rodeo Refinery in Contra Costa County, California, for upgrading into finished petroleum products. Other SMR products included petroleum coke (a byproduct of oil refining), which was shipped to off-site market destinations by rail and truck, and granular sulfur (recovered from the crude oil), which was shipped to off-site market destinations by truck.

Figure ES-1 Project Location



Source: Original Applicant Submission, Prepared by MRS as part of the EIR 2023

Phillips 66 recently obtained approval to transform the Rodeo Refinery, located in the community of Rodeo, in Contra Costa County, into a repurposed facility that will process renewable feedstocks into renewable diesel fuel, renewable components for blending with other transportation fuels, and renewable fuel gas. Because the Rodeo Renewed Project will discontinue the processing of crude oil at the Rodeo Refinery, the SMR is no longer necessary to provide feedstock to the Rodeo Refinery. Consequently, Phillips 66 submitted an application for Development Plan and Coastal Development Permit approval to the County of San Luis Obispo for demolition and remediation in August of 2022 and ceased crude oil processing at the SMR in January 2023. The Application was accepted for processing on March 15, 2023.

Project Impacts and Mitigation Measures

Based upon the Notice of Preparation (NOP) and scoping comments, 16 issue/resource areas were identified where potentially significant impacts could occur from the Project. The impact analysis for each of these issue areas is provided in the following subsections of Chapter 4.0, Environmental Impacts Analysis. The analysis of each issue area has defined the study area for purposes of the impact analysis. In most cases, the study area is the region that is in the vicinity of the Project.

For each identified issue area, the following framework was used:

- Environmental Setting;
- Regulatory Setting;
- Thresholds of Significance;
- Impact Assessment Methodology;
- Project-Specific Impacts and Mitigation Measures;
- Residual Impacts;
- Mitigation Measure Impacts to Other Issue Areas; and
- Cumulative Impacts.

The residual impact is the impact classification after any mitigation has been applied. If an impact is found to be *less than significant*, then the residual impact would remain *less than significant* with or without mitigation. All residual impacts identified in this document have been classified according to the following criteria:

- ***Class I - Significant and Unmitigable:*** Significant adverse impacts that cannot be effectively mitigated. No measures can be taken to avoid or reduce these adverse effects to insignificant or negligible levels.
- ***Class II – Less Than Significant with Mitigation:*** These impacts are potentially similar in significance to those of Class I impacts but can be eliminated or reduced below an issue area’s thresholds of significance by the implementation of mitigation measures.
- ***Class III – Less Than Significant:*** An adverse impact that does not meet or exceed an issue’s thresholds of significance. Generally, no mitigation measures are required for such impacts, although they may still be recommended should the lead or responsible agency deem it appropriate to reduce the impact to the maximum extent feasible.

- ***Class IV - Beneficial:*** Effects are beneficial to the environment.
- ***No Impact*** - A change that results in no impact on the environment relative to the environmental baseline.

If the impact remains at or above the pertinent threshold of significance after mitigation is applied, it is deemed to be *significant and unavoidable, Class I*. If a “significant impact” is reduced, based on compliance with mitigation, to a level below the pertinent threshold of significance, it is determined to no longer have a significant effect on the environment (i.e., to be *less than significant with mitigation, Class II*). If an action creates an adverse impact above the baseline condition, but such impact does not meet or exceed the pertinent threshold of significance, it is determined to be *less than significant, Class III*. An action that provides an improvement to an environmental issue area in comparison to the baseline information is recognized as a *beneficial impact, Class IV*.

Description of Project Alternatives

CEQA Section 15126.6, requires an EIR to describe a reasonable range of alternatives to a project or to the location of a project which could feasibly attain its basic objectives and evaluate the comparative merits of the alternatives. This section discusses a range of alternatives to the Project, including the “No Project” alternative. Criteria used to evaluate the range of alternatives and remove certain alternatives from further consideration are addressed. State CEQA Guidelines Section 15126.6 provides direction for the discussion of alternatives to the Project.

The alternatives identified for further detailed analysis and discussion in the environmentally superior alternative section are listed below:

1. No Project Alternative;
2. Full Removal of Facilities Alternative;
3. Removal of Offshore Facilities Alternative;
4. Additional Remediation and Cleanup Alternative; and
5. Conservative Removal Alternative.

Each is briefly described below. For more information, see Chapter 5.0, Alternatives.

1. No Project Alternative

Under the CEQA-required No Project Alternative, the demolition Project would not move forward. The SMR would remain in a shut-down, decommissioned state and no crude oil would be received or processed. It is possible that the SMR in its current state could be sold to an interested buyer, who would then design a project and submit an application to the County for review. This project would also need to go through the CEQA process, not unlike the process currently being implemented for the Project. This future use is speculative, however, and it is possible that the SMR would remain in a shut-down state for many years.

As CEQA also assumes that state regulatory schemes would be applicable, the remediation of contaminated soils and groundwater as required by the Central Coast Regional Water Quality Control Board (Central Coast Water Board) would still occur under this alternative.

2. Full Removal of Facilities Alternative

The Project as proposed identifies a number of facilities to remain in place for potential future use (surface hardscape, rail spurs, truck scale, wastewater outfall pipeline, etc.). Under this alternative, all facilities aboveground and belowground would be removed except those associated with Central Coast Water Board cleanup actions currently ongoing, which would include the following facilities:

- Groundwater monitoring wells; and
- The Slop Oil Line Release water remediation equipment and other remediation equipment that may be need as required by the Central Coast Water Board.

All other facilities would be removed as part of this alternative.

3. Removal of Offshore Facilities Alternative

The Project identifies a number of facilities proposed to remain in place for potential future use (surface hardscape, rail spurs, truck scale, wastewater outfall pipeline, etc.). Under this alternative, all of these facilities would remain as proposed except for the wastewater outfall pipeline, which would be removed. The wastewater outfall line is currently under a lease to the California State Lands Commission (CSLC) which expires in 2028.

4. Additional Remediation and Cleanup Alternative

The Project proposes to remediate the site to industrial standards, consistent with the Industrial land use designation. Under this alternative, the site would be remediated to different, higher standards than requirements for Industrial land uses, upon approval from the Central Coast Water Board. Because a higher standard of remediation and cleanup could provide some environmental benefits and/or produce greater impacts (more truck trips, etc.) and full disclosure to the public is warranted, this alternative has been retained for full analysis in this section.

5. Conservative Removal Alternative

The Project would involve removal of aboveground equipment and then belowground equipment only where remediation is required. This would entail leaving a potentially substantial amount of materials belowground (i.e., pipe segments, concrete footings) as most of the belowground infrastructure may not be located in areas of the site that would require remediation. This alternative would involve the removal of nearly all belowground infrastructure, grading of a high percentage of the site and revegetation of those graded areas, resulting in about 81 percent of the site being vegetated as opposed to the Project level of 49 percent. Some areas would remain “hardscaped”, including gravel and crushed concrete, for potential future use (primarily Area 3, Process and Electrical Substation/Switchyard; see Figure 2-3), and the items proposed to remain related to regulatory requirements (monitoring wells, groundwater remediation infrastructure)

and other potential future use infrastructure (rail spur, electrical systems, wastewater outfall, etc.) would also remain.

Summary of Impacts

The alternatives, as listed above, have been carried forward for comparison in the analysis of the environmentally superior alternative. Table ES.1 at the end of this section summarizes the impacts of the Project for each of the pertinent issue areas, their level of impact and proposed mitigation measures, and provides a comparison of the Project to the alternatives. Detailed mitigation measures are listed in Chapter 7.0, Mitigation Monitoring and Reporting Program.

One *significant and unavoidable (Class I) impact* is identified as part of the Project. This is related to the short-term construction activities that would increase the emissions of particulate matter on the Nipomo Mesa (impact LUP.2). The Nipomo Mesa is classified as Level of Severity III for Air Quality by the County's Resource Management System in the General Plan Conservation Element Policy AQ 3.3. This policy states:

Avoid a net increase in criteria air pollutant emissions in planning areas certified as Level of Severity II or III for Air Quality by the County's Resource Management System (RMS).

The Nipomo Mesa has a history of particulate matter impacts, primarily due to the dunes located to the west of the Project site (see Section 4.3, Air Quality). Although the Project would emit particulate matter levels below the San Luis Obispo County Air Pollution Control District (SLOCAPCD) thresholds, it would still generate a "net increase" in particulate matter on the Mesa and therefore be in conflict with land use policy AQ 3.3 and potentially contribute to existing health impacts from particulate matter on the Mesa. Note that long-term particulate matter emissions (impact LUP.3) would decrease with the Project implementation and is considered beneficial.

Another significant and unavoidable impact is potential impacts on black abalone associated with two of the alternatives: 2. Full Removal, and 3. Offshore Facilities Removal (outfall).

Environmentally Superior Alternative

This section summarizes the environmental advantages and disadvantages associated with the Project and the alternatives evaluated above. Based upon this discussion, the environmentally superior alternative is selected as required by CEQA. The CEQA Guidelines Section 15126.6(e)(2), state that if the environmentally superior alternative is the No Project Alternative, then the next most environmentally-preferred alternative from among the other alternatives must also be identified.

CEQA does not provide specific direction regarding the methodology of comparing alternatives and the Project. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. Issue areas with significant and unavoidable (Class I) long-term impacts are generally given more weight in

comparing alternatives. Impacts that are short term (e.g., construction-related impacts) or those that can be mitigated to less than significant levels are generally considered to be less important.

CEQA indicates that:

The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. (Section 15126.6)

All of the alternatives present a wide range of potential activities at the site, from a minimal disturbance of existing infrastructure but still achieving the required regulatory soil remediation (No Project Alternative) to the full removal of all infrastructure not required for regulatory purposes (Full Removal Alternative). The goal of the alternatives analysis under CEQA is the reduction in the severity or elimination of significant and unavoidable impacts.

None of the alternatives would eliminate or reduce the severity of the significant and unavoidable short-term land use impact related to the creation of particulate emissions on the Nipomo Mesa. Most of the alternatives would actually increase either the level of particulate or the duration of particulate emissions. As the Project has the lowest severity associated with the potential particulate impacts, and the Project would achieve the Project objectives, the Project is considered the environmentally superior alternative. The No Project Alternative would also keep particulate emissions to a minimum but may introduce feasibility issues related to achieving soil remediation as not all of the aboveground infrastructure would be removed and therefore may not achieve the Project objectives.

Note that all other alternatives, except for the No Project Alternative, while not presenting CEQA advantages in reducing significant and unavoidable impacts (see beneficial discussion below), also achieve the Project objectives.

Known Areas of Controversy and Uncertainty

CEQA requires that an EIR discuss areas of controversy known to the Lead Agency including issues raised by agencies and the public (CEQA Guidelines Section 15123 (b)(2)). Controversial issues related to the Project are primarily those related to potential future use of the site or related to coastal access requirements. See Section 4.14, Recreation and Coastal Access, for more discussion. As the Nipomo Mesa has a history of elevated particulate matter (see Section 4.3, Air Quality), air quality issues related to dust are a concern, as noted by the designation of the short-term net air quality increase in dust emissions during the Project being a Class I significant and unavoidable impact.

Impact Summary Tables

An Impact Summary Table for the Project is provided as Table ES.1 on the following pages. This table summarizes the impacts and mitigation measures for the Project. The Project impacts and mitigation measures are discussed in further detail in Chapter 4.0. The alternatives to the

Project are discussed in Chapter 5.0 and a detailed listing of mitigation measures is included in Chapter 7.0, Mitigation Monitoring and Reporting Program.

Long-Term Beneficial Impacts

The environmentally superior alternative analysis above is focused primarily on alternatives that could result in elimination or a reduction in the severity of significant and unavoidable impacts, as per CEQA. Impacts that are less than significant or beneficial usually do not come into play for the determination of the environmentally superior alternative. However, in order to provide full disclosure to the public and the decision makers, this section briefly summarizes the potential beneficial impacts associated with the long-term aspects of the Project.

Most projects that require CEQA are development-type projects, where facilities are being installed or operations of an existing facility are being expanded. For a project where demolition of an existing facility is proposed as the project, CEQA normally does not identify extensive impacts as the baseline is usually greater than the effects of the project, particularly in the long-term, post-construction period when the historical operations will have ceased, and the facility has been removed.

There are a number of issues areas where the Project would produce beneficial impacts over the long term. There are also some issues areas that produce benefits both in the short term (during construction), and in the long term as well. Issue areas producing benefits in both the short and long terms, and that do not have other aspects of their impacts which require mitigation or are not beneficial, are defined in this EIR as a Class IV beneficial impact. These are listed below and called out as Class IV beneficial impacts in their respective sections:

- Aesthetics due to an elimination of the SMR structures in the coastal zone and visible from Highway 1 and other areas;
- GHG due to reduction in operational GHG emissions; and
- Hydrology and Water Quality due to reductions in groundwater use.

Issue areas and impacts that are identified as long-term beneficial impacts but that do have some short-term impacts are not identified as Class IV but are discussed in each issue area and are listed below:

- Air Quality; operational criteria pollutant emissions, toxic emissions and odors would be reduced in the long term, but would occur in the short term related to construction;
- Hazardous Materials due an elimination of contaminated soils and upset hazards, would be reduced in the long term, but would occur in the short term related to construction;
- Land use impacts are beneficial in the long term due to the elimination and associated reduction in on-site particulate emissions on the Nipomo Mesa, but would increase in the short term (resulting in a Class I Land Use impact);
- Noise reduction due to the elimination of the operating refinery noise, would be reduced in the long term, but would occur in the short term related to construction;

- Transportation would be reduced in the long term due to the elimination of truck trips from the SMR, but would occur in the short term related to construction; and
- Wildfire risks, due to the elimination of industrial facilities in a fire zone, would be reduced in the long term, but would occur in the short term related to construction.

Table ES.1 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
Aesthetics	AE.1	Scenic Vistas	IV	None	IV↓	IV	IV	IV	IV
	AE.2	Visual Quality and Character	IV	None	IV↓	IV	IV	IV	IV
	AE.3	Light and Glare	IV	None	IV↓	IV	IV	IV	IV
Agricultural Resources	AG.1	Farmland Conversion	III	None	III	III	III	III	III
	AG.2	Williamson Act	III	None	III	III	III	III	III
	AG.3	Zoning Conflict	III	None	III	III	III	III	III
	AG.4	Indirect Conversion	II	AQ.1-1: Demolition & Remediation Activity Management Plan	II↓	II↑	II↑	II↑	II↑
Air Quality	AQ.1	Criteria Pollutants Construction	II	AQ.1-1: Demolition & Remediation Activity Management Plan	II↓	II↑	II↑	II↑	II↑
	AQ.2	Criteria Pollutants Operations	III	None	III	III	III	III	III
	AQ.3	Toxic Emissions	II	AQ.3-1: Clean Construction Equipment	II↓	II↑	II	II↑	II↑
	AQ.4	Odors	II	AQ.4-1: Odor Control and Purging Plan	II↓	II	II	II↑	II
	AQ.5	Clean Air Plan	II	AQ.5-1: Recordkeeping	II	II	II	II	II
Biological Resources	BIO.1	Special-Status Plants or Wildlife	II	BIO.1-1: Worker Environmental Awareness Program BIO.1-2: Biological Resources Adaptive Management & Monitoring Plan BIO.1-3 Habitat Restoration and Revegetation Plan BIO.1-4 Weed Management Plan	II↓	II↑	II↑	II↑	II↑

Table ES.1 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
	BIO.2	Nipomo Mesa Lupine	II	BIO.2-1: Lupine Surveys BIO.2-2: Lupine Avoidance BIO.2-3: Habitat Creation	II↓	II↑	II↑	II↑	II↑
	BIO.3	CRPR 1-4 Plant Species	II	BIO.3-1: Plant Surveys BIO.3-2: Plant Salvage BIO.3-3: Habitat Creation BIO.3-4: Habitat Creation	II↓	II↑	II↑	II↑	II↑
	BIO.4	Monarch Butterfly	II	BIO.4-1: Butterfly Surveys	II↓	II↑	II↑	II↑	II↑
	BIO.5	Western Bumble Bee	II	BIO.5-1: Bee Surveys & Avoidance Measures	II↓	II↑	II↑	II↑	II↑
	BIO.6	Red-legged Frog	II	BIO.6-1: Frog Measures	II↓	II↑	II↑	II↑	II↑
	BIO.7	Legless Lizard	II	BIO.7-1: Lizard Surveys	II↓	II↑	II↑	II↑	II↑
	BIO.8	Nesting Birds	II	BIO.8-1: Nesting Bird Surveys & Avoidance BIO.8-2: Owl Surveys	II↓	II↑	II↑	II↑	II↑
	BIO.9	Roosting Bats	II	BIO.9-1: Bat Surveys and Measures	II↓	II↑	II↑	II↑	II↑
	BIO.10	American Badgers	II	BIO.10-1: Badger Surveys & Relocation	II↓	II↑	II↑	II↑	II↑
	BIO.11	Dune Lupine/Scrub	II	BIO.11-1: Coastal Dune Scrub Avoidance	II↓	II↑	II↑	II↑	II↑
	BIO.12	ESHA	II	BIO.12-1: ESHA Protection Plan	II↓	II↑	II↑	II↑	II↑
	BIO.13	Wetlands	III	None	III	III	III	III	III
	BIO.14	Species Movement	II	BIO.4-1, BIO.5-1; BIO.6- BIO.7-1, BIO.8-1, BIO.8-2, BIO.9-1, BIO.10-1	II↓	II↑	II↑	II↑	II↑
	BIO.15	ESHA Policies	II	BIO.12-1: ESHA Protection Plan	II↓	II↑	II↑	II↑	II↑
	BIO.16	Protected Tress	II	BIO.16-1: Tree Avoidance and Replacement	III	III	III	III	III

Executive Summary

Table ES.1 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
	BIO.17	Habitat Conservation Plans	III	None	III	III	III	III	III
	BIO Marine.1 -1	Black Abalone	I	Alt-Fullremoval-BioMarine.1-1 Preconstruction Survey for Black Abalone	NA	I	I	NA	NA
Cultural and Tribal Cultural Resources	CT.1	Historical Resources	III	None	III	III	III	III	III
	CT.2	Archaeological Resources	II	CT.2-1: Archaeologists CT.2-2: Archaeological Monitors CT.2-3: Monitoring & Discovery Plan CT.2-4: Inadvertent Discoveries CT.2-5: Worker Environmental Awareness Program	II↓	II↑	II↑	II↑	II↑
	CT.3	Unknown Human Remains	II	CT.3-1: Discovery of Human Remains	II↓	II↑	II↑	II↑	II↑
	CT.4	Tribal Resources	II	CT.4-1: Chumash Tribal Monitors CT.4-2: Archaeological & Tribal Monitoring	II↓	II↑	II↑	II↑	II↑
Energy	EN.1	Energy Use and Supplies	III	None	III	III	III	III	III
	EN.2	Compliance with Energy Standards	III	None	III	III	III	III	III
Geology and Soils	GEO.1	Unstable Earth Conditions	III	None	III	III	III	III	III
	GEO.2	Earthquake Fault Zone	III	None	III	III	III	III	III

Table ES.1 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
	GEO.3	Soil Erosion	III	None	III	III	III	III	III
	GEO.4	Structures on Expansive Soil	III	None	III	III	III	III	III
	GEO.5	Safety Element	III	None	III	III	III	III	III
	GEO.6	Mineral Resources	III	None	III	III	III	III	III
Greenhouse Gas Emissions	GHG.1	GHG Emissions	IV	None	IV	IV	IV	IV	IV
	GHG.2	Compliance with GHG Plans	III	None	III	III	III	III	III
Hazards and Hazardous Materials	HAZ.1	Routine Hazards	II	HAZ.1-1: Contaminated Soil Management Plan	II	II	II	II↑	II
	HAZ.2	Upset Hazards	II	HAZ.2-1: Spill Response Planning HAZ.2-2: Asbestos and Lead Handling Plan	II	II↑	II↑	II	II
	HAZ.3	Hazards Proximate to Schools	III	None	III	III	III	III	III
	HAZ.4	Listed Hazard Sites	II	HAZ.4-1: Sitewide Sampling and Remediation Plan	II	II	II	II	II
	HAZ.5	Proximity to Airport	III	None	III	III	III	III	III
	HAZ.6	Impair Emergency Response	III	None	III	III	III	III	III
	HAZ.7	Wildfire Risks	II	HAZ.7-1: Fire Response Planning	II	II↑	II↑	II	II
Hydrology and Water Quality	HWQ.1	Degrade Surface or Groundwater Quality	II	HAZ.2-1: Spill Response Planning	II↓	II↑	II↑	II↑	II↑
	HWQ.2	Groundwater Quality	III	None	III	III	III	III	III
	HWQ.3	Stormwater Capacity	III	None	III	IV	III	III	IV

Table ES.1 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
	HWQ.4	Soil Adsorption	III	None	III	IV	III	III	IV
	HWQ.5	100-year Flood Zone	III	None	III	III	III	III	III
	HWQ.6	Drainage patterns	III	None	III	IV	III	III	IV
	HWQ.7	Water Service Provider	IV	None	IV	IV	IV	IV	IV
	HWQ.8	Flooding Losses	III	None	III	III	III	III	III
Land Use and Planning	LUP.1	Divide a Community	III	None	III	III	III	III	III
	LUP.2	Policy Conflict: Short-Term Particulate	I	AQ.1-1: Demolition & Remediation Activity Management Plan AQ.3-1 Clean Construction Equipment	I↓	I↑	I↑	I↑	I↑
	LUP.3	Policy Conflict: Long-Term Particulate	IV	None	IV	IV	IV	IV	IV
	LUP.4	Policy Conflict: Coastal Access	III	None	III	III	III	III	III
Noise	NOI.1	Noise Increases	II	NOI.1-1: Nighttime Activities Limits NOI.1-2: Construction Noise Control Measures	II↓	II↑	II	II↑	II
	NOI.2	Vibration	III	None	III	III	III	III	III
	NOI.3	Airport Proximity Noise	III	None	III	III	III	III	III
Public Services, Utilities and Service Systems	PSU.1	Fire Services	III	None	III	III	III	III	III
	PSU.2	Police Services	III	None	III	III	III	III	III
	PSU.3	LMUSD	III	None	III	III	III	III	III
	PSU.4	Park Facilities	III	None	III	III	III	III	III
	PSU.5	Water, Utilities	III	None	III	III	III	III	III
	PSU.6	Water Supplies	III	None	III	III	III	III	III
	PSU.7	Wastewater	III	None	III	III	III	III	III

Table ES.1 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
	PSU.8	Solid Waste	III	None	III	III	III	III	III
Recreation and Coastal Access	REC.1	Parks	III	None	III	III	III	III	III
	REC.2	Rec Facilities	III	None	III	III	III	III	III
Transportation	TR.1	Vehicle Miles Traveled	II	TR.1-1: Construction Traffic Management Plan	III↓	II↑	II↑	II↑	II↑
	TR.2	Train Trips	III	None	III	III	III	III	III
	TR.3	Roadway Safety	III	None	III	III	III	III	III
Wildfire	WF.1	Exacerbated Wildfire Risks	II	HAZ.7-1: Fire Response Planning	II	II↑	II↑	II	II
	WF.2	Infrastructure Installations	III	None	III	III	III	III	III
	WF.3	Slope and Landslide Fire Risks	III	None	III	III	III	III	III

Notes: ↓ = decrease in severity; ↑ = increase in severity. Class I – significant and unavoidable; Class II – significant but mitigable; Class III – less than significant; Class IV – Beneficial. Generally, all Class III impacts are considered similar and are not assigned arrows indicating increase or decrease in severity.

1.0 Introduction

This Draft Environmental Impact Report (EIR) has been prepared to address the proposed Phillips 66 Santa Maria Refinery Demolition and Remediation Project (Project). The applicant for the Project is Phillips 66 Company (Phillips 66 or the Applicant). The Santa Maria Refinery (SMR) is located in the southwestern corner of the County of San Luis Obispo (County), approximately one mile southwest of State Route 1, and approximately 3.5 miles west of the community of Nipomo, in the South County Coastal and South County Inland planning areas.

The location of the SMR is shown in Figure 2-1.

1.1 Purpose of the EIR

The Project's activities are discretionary actions requiring approval by the County's Planning Commission (the members of which are appointed by the Board of Supervisors); therefore, the Project is subject to the requirements of the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21000 et. seq.) and the State CEQA Guidelines (California Code of Regulations [CCR] Section 15000 et seq.).

The EIR analyzes the Project's significant impacts on the environment, identifies necessary mitigation measures, and identifies alternatives to the Project that avoid or reduce these impacts. This EIR is intended to serve as an informational document for the County as Lead Agency, responsible agencies, and the general public in their consideration and evaluation of the environmental consequences associated with implementation of the Project.

Under the CEQA process, an EIR must serve as a full-disclosure document that enables the lead and responsible agencies to fully evaluate potential environmental impacts and the consequences of their decision on the Project. This EIR has been written to comply with the requirements of CEQA for the analysis of the Project, as well as the development and evaluation of alternatives to the Project. The County Planning Commission and Board of Supervisors, if the Planning Commission's decision is appealed, will consider the information in the EIR, including the public comments and staff responses to those comments, during the public hearing process. The final decision will be made by the Planning Commission (unless appealed to the Board of Supervisors), which may approve, conditionally approve, or deny the Project.

1.2 Summary of the Proposed Project

Phillips 66 proposes to demolish aboveground infrastructure at the SMR and remediate the site. The Project is located at 2555 Willow Road (State Route 1) in an unincorporated area of the County, near Arroyo Grande and Nipomo, and approximately five miles west of U.S. Highway 101. The SMR site is located within the coastal zone.

The Project site consists of refinery facilities that occupy approximately 218 acres within portions of two adjoining parcels: Assessor's Parcel Number (APN) 092-401-011 and APN 092-401-005.

Phillips 66 also owns contiguous undeveloped properties that are not part of the Project (see Figure 2-1).

The SMR was built in 1955. The SMR includes petroleum storage and processing facilities, primarily for high-sulfur heavy crude oil. The crude oil was delivered primarily from offshore platforms along the California coast and oil fields in and near the Santa Maria Valley. The majority of crude oil was delivered to the SMR by pipeline. The remainder, which was approximately 2,000 barrels per day of petroleum-based products, was delivered by truck. Semi-refined liquid products from the SMR were transported by pipeline as feedstocks to the Rodeo Refinery in Contra Costa County, California, for upgrading into finished petroleum products. Other SMR products included petroleum coke (a byproduct of oil refining), which was shipped to off-site market destinations by rail and truck, and granular sulfur (recovered from the crude oil), which was shipped to off-site market destinations by truck.

Phillips 66 recently obtained approval to transform the Rodeo Refinery, located in the community of Rodeo, in Contra Costa County, into a repurposed facility that will process renewable feedstocks into renewable diesel fuel, renewable components for blending with other transportation fuels, and renewable fuel gas. Because the Rodeo Renewed Project will discontinue the processing of crude oil at the Rodeo Refinery, the SMR is no longer necessary to provide feedstock to the Rodeo Refinery. Consequently, Phillips 66 ceased operations of the SMR in January 2023.

The California Coastal Act (CCA) is the principal planning and regulatory program for the coastal zone of California. Section 23.01.031 of the County's Coastal Zone Land Use Ordinance (CZLUO) requires a Coastal Development Permit (CDP) for development projects in accordance with the CCA and the above-referenced section of the CZLUO. In addition, Section 23.02.034 of the CZLUO requires a CDP to enable public review of significant land use proposals and to ensure consistency with local ordinance and policy. The area of the site in the coastal zone is located within the California Coastal Commission (CCC) appeal jurisdiction, meaning that County decisions on the Project may be appealed to the CCC.

1.3 Agency Use of the Document for the Project

The County determined that an EIR for the Project, consistent with the requirements of CEQA, was needed in order to proceed with permitting. Section 15124(d) of the CEQA Guidelines requires that an EIR contain a statement briefly describing the intended uses of the EIR. The CEQA Guidelines indicate that the EIR should identify the ways in which the Lead Agency and any responsible agencies would use this document in their approval or permitting processes. Section 2.8 provides a list of possible agencies that would need to issue permits for the Project. The County is the Lead Agency under CEQA, and the other agencies listed in Section 2.8 would serve as responsible agencies.

This Draft EIR is consistent with Section 15120–15132 of the CEQA Guidelines which sets forth requirements for contents of EIRs. Based upon the environmental impact analysis of the Project, a number of measures have been developed to mitigate the identified impacts associated with the Project. The County may incorporate the mitigation measures identified in the Draft EIR, where applicable, as conditions of approval in Project entitlements which may be granted for the Project.

The environmental impact analysis will be used by the public and decision makers to help understand the scope of the Project and the associated environmental effects.

The remainder of this section provides a summary of how the key agencies will use this document for permitting of the Project.

The County will use this EIR as part of its decision-making process in evaluating the proposed Development Plan/CDP for the Project. The County will be responsible for certifying the EIR, if the Project is approved. The EIR would also be used as part of the processing of demolition, grading, and any encroachment permits that would be needed should the Project be approved.

The San Luis Obispo County Air Pollution Control District (SLOCAPCD) is the agency responsible for issuance of a Permit to Construct (PTC) and a Permit to Operate (PTO), both of which would be required for the Project. To fulfill its obligations as a responsible agency, SLOCAPCD will rely on information contained in this EIR as part of any PTC/PTO permitting process.

The California Department of Forestry and Fire Protection, under contract with San Luis Obispo County for Fire Services (CAL FIRE/County Fire) may use the EIR as part of their permitting process in coordination with the Building Division which issues the permit. CAL FIRE/County Fire will have to approve the fire protection systems prior to the fire protection permit being issued for the Project.

The Regional Water Quality Control Board (RWQCB) will use the EIR for decision-making regarding any updates to the SMR's National Pollutant Discharge Elimination System (NPDES) permit and for any stormwater construction general permit.

1.4 EIR Process and Notice of Preparation Scoping Process

This EIR was prepared in accordance with state and County administrative guidelines established to comply with CEQA. Section 15151 of the State CEQA Guidelines provides the following standards for EIR adequacy:

An EIR should be prepared with a sufficient degree of analysis to provide decision makers with information which enables them to make a decision which intelligently takes account of environmental consequences. An evaluation of the environmental effects of a proposed project need not be exhaustive, but the sufficiency of an EIR is to be reviewed in light of what is reasonably feasible. Disagreement among experts does not make an EIR inadequate, but the EIR should summarize the main points of disagreement among the experts. The courts have looked not for perfection; but for adequacy, completeness, and a good faith effort at full disclosure.

The County has determined that the Project needs environmental review in the form of a Project Specific EIR pursuant to CEQA instead of a categorical or statutory exemption, or a Negative Declaration. Under CEQA:

1.0 Introduction

[t]he purpose of an environmental impact report is to identify the significant effects on the environment of a project, to identify alternatives to the proposed project, and to indicate the manner in which those significant effects can be mitigated or avoided (PRC Section 21002.1[a]).

An EIR is the most comprehensive form of environmental documentation identified in CEQA and provides the information needed to assess the environmental consequences of a proposed project. EIRs are intended to provide an objective, factually supported, full-disclosure analysis of the environmental consequences associated with a proposed project that has the potential to result in significant, adverse environmental impacts.

In compliance with State CEQA Guidelines, the County, as the Lead Agency, prepared a Notice of Preparation (NOP) for the Project and solicited comments through distribution of the NOP. A virtual public scoping meeting was held on May 13, 2023. Two additional public scoping meetings were held on May 17, 2023, one virtual and one in the community. The scoping meetings provided an opportunity for the public to comment on the scope of the EIR. The NOP and comments received in response to the NOP were used to direct the scope of the analysis and the technical studies in this EIR. A copy of the NOP and the comments received are included in Appendix B of the EIR.

The CEQA Guidelines require that a Lead Agency shall neither approve nor implement a project as proposed where the significant environmental impacts have not been reduced to an acceptable level without making a Statement of Overriding Considerations. An acceptable level is defined as eliminating, avoiding, or substantially lessening significant environmental effects to below a level of significance. If the Lead Agency approves the Project even though significant impacts identified in the EIR cannot be fully mitigated, the Lead Agency must state, in writing, the reasons for its action. In these circumstances, Findings and a Statement of Overriding Considerations must be included in the record of Project approval and mentioned in the Notice of Determination.

1.5 EIR Contents

The Draft EIR is divided into two volumes. Volume I is the EIR Chapters 1 through 8, and Volume II is the EIR Technical Appendices. Volume II is available only in electronic format and is included online. The EIR (Volume I) contains the following major chapters:

Executive Summary – Provides an overview of the Project, and a summary of the significant impacts and associated mitigation measures identified for the Project.

Impact Summary Tables – Provides a summary of the identified impacts for the Project. The table also provides a summary of identified mitigation measures for each impact.

1.0 Introduction – Provides a brief overview of the Project evaluated in the EIR, a discussion of agency use of the document, the use of EIR terminology, and a summary of the contents of the EIR.

2.0 Project Description – Provides the background of the Project, including a history of the area and a detailed description of the Project including construction and operation. This chapter also contains a discussion of the needs and objectives of the Project.

-
- 3.0 Cumulative Study Area** – Provides a summary of the methodology used to assess cumulative impacts and a description of the projects that have been included in the cumulative analysis.
- 4.0 Environmental Impacts Analysis** – Describes the baseline conditions found at the Project site and vicinity and assesses the potential environmental impacts that could occur if the Project is implemented. These potential impacts are compared to various “Thresholds of Significance” (or significance criteria) to determine the severity of the impacts. Mitigation measures intended to reduce significant impacts are identified where feasible. The introduction to this chapter discusses the selection of the baseline conditions. This chapter also discusses cumulative impacts.
- 5.0 Alternatives Analysis** – The first part of this chapter presents a description of various alternatives to the Project. This is followed by an alternative screening analysis that was used to identify alternatives that could reduce significant impacts associated with the Project, and to eliminate alternatives from further consideration. The third section provides the environmental analysis of the selected alternatives. A section is provided that summarizes the environmental advantages and disadvantages associated with the Project and the alternatives. The last section is a discussion of the environmentally superior alternative for the Project.
- 6.0 Other Required CEQA Sections** – Discusses the significant and irreversible environmental changes that could occur if the Project is implemented. This chapter also discusses the spatial, economic, and/or population growth impacts that may result from the Project, as well as energy conservation.
- 7.0 Mitigation Monitoring and Reporting Program** – Contains a listing of all identified mitigation measures that should be included in any permit issued for the Project, their implementation requirements, verification schedule, and parties responsible for their implementation and verification.
- 8.0 List of Preparers and Contacts**– Provides information on the preparers of the EIR and a list of agency and other persons contacted as part of the preparation of the EIR.

The technical appendices for the Final EIR are included in Volume II. These technical appendices support the analysis in the Final EIR. The appendices are voluminous and are therefore provided in electronic format only. The technical appendices include the following:

- Appendix A – Project Description Information
- Appendix B – Scoping Report including Notice of Preparation and Comment Letters
- Appendix C – Air Quality and Greenhouse Gas Emissions Information
- Appendix D – Biological Resources Information
- Appendix E – Noise Impact Assessment

For the Final EIR, comment letters and responses on the Draft EIR will be included in Volume III. The comment letters and responses could be voluminous and therefore will only be provided in electronic format. The Final EIR will also include any edits to the Draft EIR based on the comments received. The response to comments volume provides information on how to use the

1.0 Introduction

response to comments volume, a response to comments executive summary, and all comment letters and associated responses.

1.6 Project Sponsors

Lead Agency

County of San Luis Obispo
976 Osos Street, Room 200
San Luis Obispo, CA 93408

Project Applicant

Phillips 66 Company
1380 San Pablo Ave.
Rodeo, CA 94572

Property Location:
2555 Willow Road
Arroyo Grande, CA 93420
APNs 092-401-005, 092-401-011

Environmental Consultants

MRS Environmental, Inc.
1306 Santa Barbara Street
Santa Barbara, CA 93101

SWCA, Dudek, and CCTC also contributed.
See Chapter 8.

1.7 Review of the Draft EIR

This Draft EIR was distributed electronically to responsible and trustee agencies, other affected agencies, surrounding cities, interested parties, and all parties requesting a copy of the Draft EIR in accordance with PRC Section 21092(b)(3). The Notice of Completion and Notice of Availability of the Draft EIR were distributed and posted as required by CEQA. During the 45-day public review period, the Draft EIR and all technical appendices are available for review at the following locations:

County of San Luis Obispo
Department of Planning and Building
976 Osos Street, Room 200
San Luis Obispo, CA 93408

San Luis Obispo Library
995 Palm Street
San Luis Obispo, CA 93401

Arroyo Grande Library
800 W. Branch
Arroyo Grande, CA 93420

Nipomo Library
918 West Tefft
Nipomo, CA 93444

Online at: County of San Luis Obispo
www.slocounty.gov/Phillips66

On behalf of the Lead Agency, comments on the Draft EIR shall be addressed to:

Susan Strachan
Decommissioning Project Manager
County of San Luis Obispo
Department of Planning and Building
976 Osos Street, Room 300
San Luis Obispo, CA 93408
Email: p66refinery@co.slo.ca.us
Subject Line: SMR Demolition and Remediation Project EIR Comments

Written responses to all significant environmental issues raised will be prepared and included as part of the Final EIR and the administrative record for consideration by decision makers for the Project.

2.0 Project Description

Phillips 66 Company (Phillips 66) is requesting a Development Plan (DP) and Coastal Development Permit (CDP) from the County of San Luis Obispo (County) for the proposed Santa Maria Refinery (SMR or Refinery) Demolition and Remediation Project (Project). This section describes the SMR Project as proposed by Phillips 66.

2.1 Objectives and Purpose

The Phillips 66 Project objectives include:

- Demolish the Santa Maria Refinery aboveground facilities (equipment and associated infrastructure).
- Achieve soil remediation at the Project site that meets applicable risk-based industrial standards in a cost-effective manner.
- Minimize ground disturbance by retaining existing surface hardscapes and existing belowground infrastructure except where removal is necessary for site remediation.
- Retain essential infrastructure or utilities required to be kept in place by regulatory authorities, and features retained for site security or for other site uses by potential future users; and
- To the extent practicable, minimize costs and maximize economic returns associated with material, facilities, equipment, and other infrastructure removed from Project site.

The purpose of this Project Description is to describe the demolition and remediation activities to support agency reviews and approvals, including environmental review under the California Environmental Quality Act (CEQA).

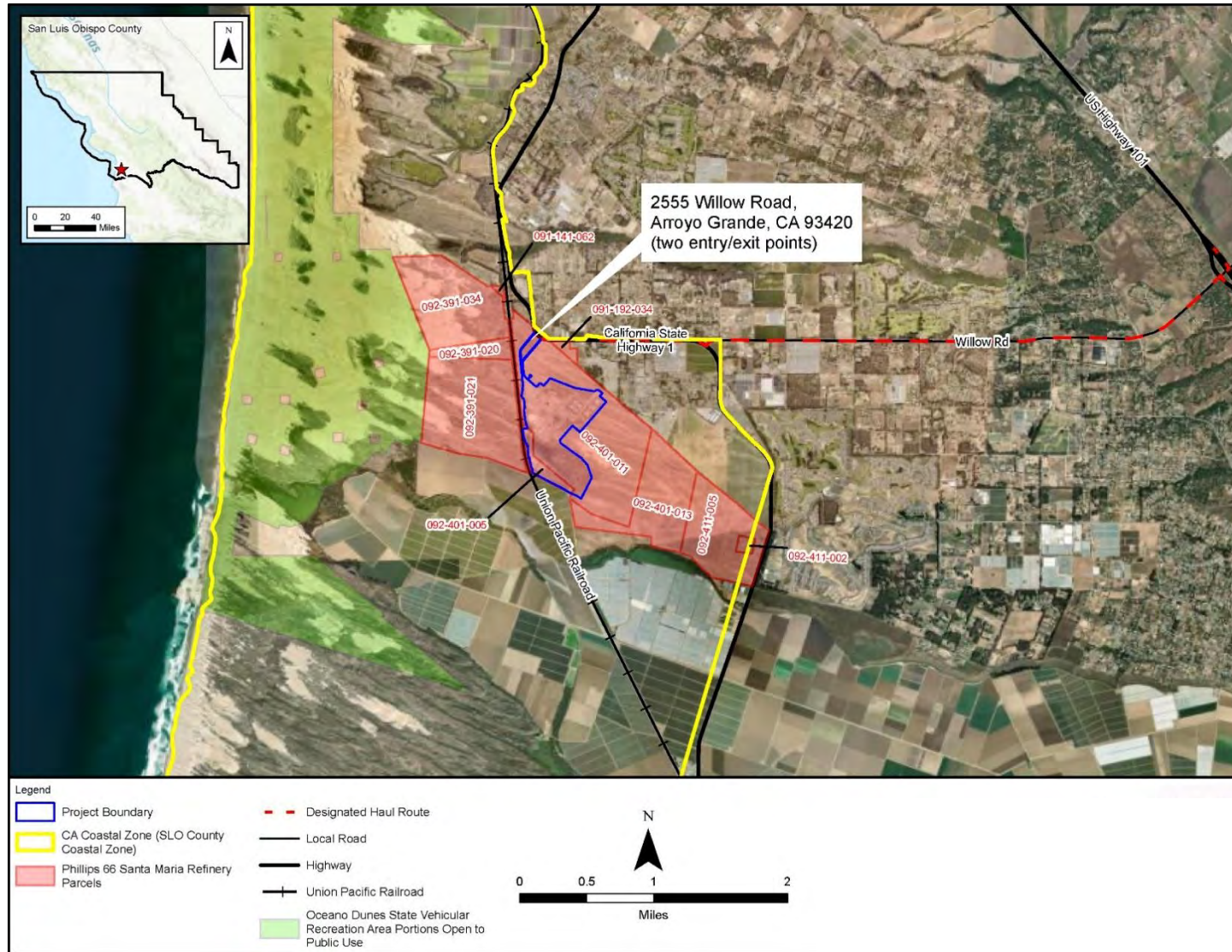
2.2 Project Summary

The SMR is on a portion of property owned by Phillips 66 at 2555 Willow Road in Arroyo Grande, California (see Figure 2-1). The SMR includes petroleum storage and processing facilities, primarily for high-sulfur heavy crude oil. The crude oil historically came primarily from offshore platforms along the California coast and oil fields in and near the Santa Maria Valley. The majority of crude oil was delivered to the Refinery by pipeline. The remainder of petroleum-based products was delivered by truck. See Chapter 4.0 for a discussion of baseline and the historical Refinery operations.

Semi-refined liquid products from the SMR have historically been transported by pipeline as feedstocks to the Phillips 66 Rodeo Refinery in Contra Costa County (Contra Costa County 2021), California for upgrading into finished petroleum products. Other SMR products include petroleum coke (a byproduct of oil refining), which is shipped to off-site market destinations by rail and truck, and granular sulfur (recovered from the crude oil), which is shipped to off-site market destinations by truck.

2.0 Project Description

Figure 2-1 Project Location



Source: Phillips 66 Application 2023

In 2022, Phillips 66 received approval from Contra Costa County to modify the Rodeo Refinery to process renewable feedstocks into renewable diesel and other renewable products. Since the Rodeo Refinery will no longer process crude oil, product from the SMR is no longer needed. Given this, in January 2023, Phillips 66 discontinued processing crude oil at the SMR and began to shut down and decontaminate the facility (under separate existing permits). Under the Project, Phillips 66 intends to demolish most of the aboveground structures, facilities, and equipment within the perimeter fence line of the SMR site. Some aboveground features would remain as described in Section 2.4.7. Once aboveground features are removed, site characterization soil testing would be conducted to determine what areas require soil remediation and what belowground infrastructure would require removal to support the remediation effort. Site characterization cannot be conducted until the aboveground structures are removed, allowing access to conduct the soil testing. As a result, the extent of remediation necessary is not known. Given this, the projected volume of contaminated soil to be removed and exported off site for disposal is estimated at a conservative upper range based on data from previous site assessments and Regional Water Quality Control Board (RWQCB) industrial worker environmental screening levels (ESL). This estimate ensures a conservative evaluation of truck and rail trips for off-site disposal of demolition debris and contaminated soils and associated environmental analyses pursuant to the California Environmental Quality Act (CEQA).

In areas that do not require remediation, only the aboveground features (except those identified in Section 2.4.7) would be removed and the surface hardscapes (concrete, asphalt, compacted base/gravel, or asphalt emulsion coating covering banks and berms) and belowground infrastructure would be left in place; there would be no earthmoving or site restoration in the areas not requiring remediation.

In areas where soil remediation is required, surface hardscapes and clean soil would be removed and set aside. Belowground infrastructure such as concrete building slabs, perimeter footings, pad footings, containment walls, pipe rack pedestals, equipment columns, tank ring foundations, underground utilities, and piping would be selectively removed to enable access to the contaminated soil. Once required clean-up standards are met within remediated areas, clean soil previously set aside and soil from an on-site borrow area would be used to backfill the excavations. Remediated areas would then be covered and “re-hardened” with available material such as aggregate from crushed concrete, poured concrete slurry, or asphalt, and returned to the original contour. The volume of hardscape would depend on the surface area of the disturbance and thickness of the hardening material. Clean hardscape material may need to be imported to supplement the existing site backfill material to restore the removed hardscape.

In areas where vegetation requires removal in order to complete remediation, the appropriate plant palettes and seed mixes would be selected for revegetation during the detailed planting phase (see Section 2.6). The Project is expected to result in an increase in vegetated area from the existing site (49 percent of the site would be vegetation due to the removal of coke and revegetation of the coke area in Area 6 whereas the existing site has 31 percent vegetation with 18 percent coke [non-vegetated] area).

Potential future uses of the SMR site once the Project is complete are unknown and are speculative at this time; therefore, future uses are not considered in this Project. Project summary statistics are

2.0 Project Description

listed below in Table 2.1. A summary of the project schedule is shown in Figure 2-2 below. More detailed schedules are provided in Sections 2.4 and 2.5.

Table 2.1 Project Overview Characteristics and Statistics

Characteristics	Project Characteristics
Site Address	2555 Willow Road, Arroyo Grande
Year Refinery Built	1955
Refinery Site Area	218 acres
Entire Parcel Areas combined	1,642 acres
Pipeline Connections: Refinery feed/input	Pipeline system incoming from the Santa Maria Pump Station and from the Lompoc Oil and Gas Plant in Santa Barbara County.
Pipeline Connections: product/output	Pipeline extending off site to Rodeo Refinery in the San Francisco Bay Area
Historical Site Statistics Summary	
Historical Water Use	1,100 acre-feet per year average (982,000 gal/day average)
Site vegetated area	31 percent
Historical Refinery Truck Trips	37 truck trips per day average
Historical Refinery Train Trips	52 per year, 405 rail cars per year
Historical Refinery Employees	141–197 average employees per day
Project Statistics Summary	
Proposed Water Use during Project	Up to 14 acre-feet per year
Aboveground Demolition Phase duration	8 months
Aboveground Demolition Phase daily schedule	7 a.m. to 9 p.m. weekdays, 8 a.m. to 5 p.m. weekends/holidays. No nights
Aboveground Demolition Phase truck trips	60 trips per week maximum, total of 650 truck trips
Aboveground Demolition Phase train cars	Minimal rail car loads, approximately 1 train
Aboveground Demolition Phase employees	45 employees per day maximum including overlapping with remediation
Aboveground Demolition Phase total waste generated	12,800 cubic yards
Remediation and Associated Belowground Demolition Phase duration	10 months to 10 years (including remediation)
Remediation and Associated Belowground Demolition Phase truck trips	83 trips per week maximum, total of up to 1,181 ^a
Remediation and Associated Belowground Demolition Phase train cars	Up to 2,046 rail car loads, 256 trains
Remediation and Associated Belowground Demolition Phase employees	38 employees maximum after aboveground is completed
Remediation and Associated Belowground Demolition Phase Impacted Soil Volume	200,500 cubic yards (estimated contaminated soil export)
Remediation and Associated Belowground Demolition Phase total waste generated (exported off site)	206,120 cubic yards ^b
Remediation and Associated Belowground Demolition Phase total recycled material	956 cubic yards ^b
Proposed truck routes	Highway 1 to Willow Rd to Highway 101
Average train loads	192 trains per year based on the peak quarter (x4)
Total Cut (soil and miscellaneous materials, including estimated contaminated export)	409,040 cubic yards
Total Fill (soil and miscellaneous hardscape, from on site)	206,120 cubic yards ^c
Total Grading (including non-soil fills)	615,160 cubic yards ^d
Revegetated area after Project	49 percent

Table 2.1 Project Overview Characteristics and Statistics

Characteristics	Project Characteristics
Revegetation schedule	3 years from time of seeding, 5-year planning period
Site Parcels	Project Parcels: 092-411-005, 092-401-011 Adjacent Applicant-owned Parcels (not a part of the Project): 092-401-013, 092-411-002, 092-401-005, 091-192-034, 091-141-062, 092-391-021, 092-391-020, 092-391-034

Notes:

- Refer to Section 2.5, Tables 2.8 and 2.10 for additional details. The actual number of truck trips would depend on the amount of impacted soil and other subsurface waste that can be carried by rail, and the amount of impacted concrete and asphalt that must be removed by truck.
- Refer to Section 2.5, Table 2.10 for additional details.
- Refer to Section 2.5, Table 2.12 for additional details.
- Refer to Grading Plan Sheet 1A in Appendix A

Source: Phillips 66 Application 2023

Figure 2-2 Project Schedule Summary

Activity	Year										
	2023	1	2	3	4	5	6	7	8	9	10
Decontamination and Abatement											
Project: Above Ground Demolition											
Project: Remediation* - most soil movement											
Project: Continued Remediation as needed**											+
Ongoing Remediation (not part of Project)***											
NIWS Restoration											
Slops Oil Remediation						+					

Notes:

- * Includes associated belowground demolition.
- ** The 10-year overall duration is worst case and is at a lower intensity than Years 1–4.
- *** These durations will vary and may extend beyond the indicated timeline.

2.3 Site Background

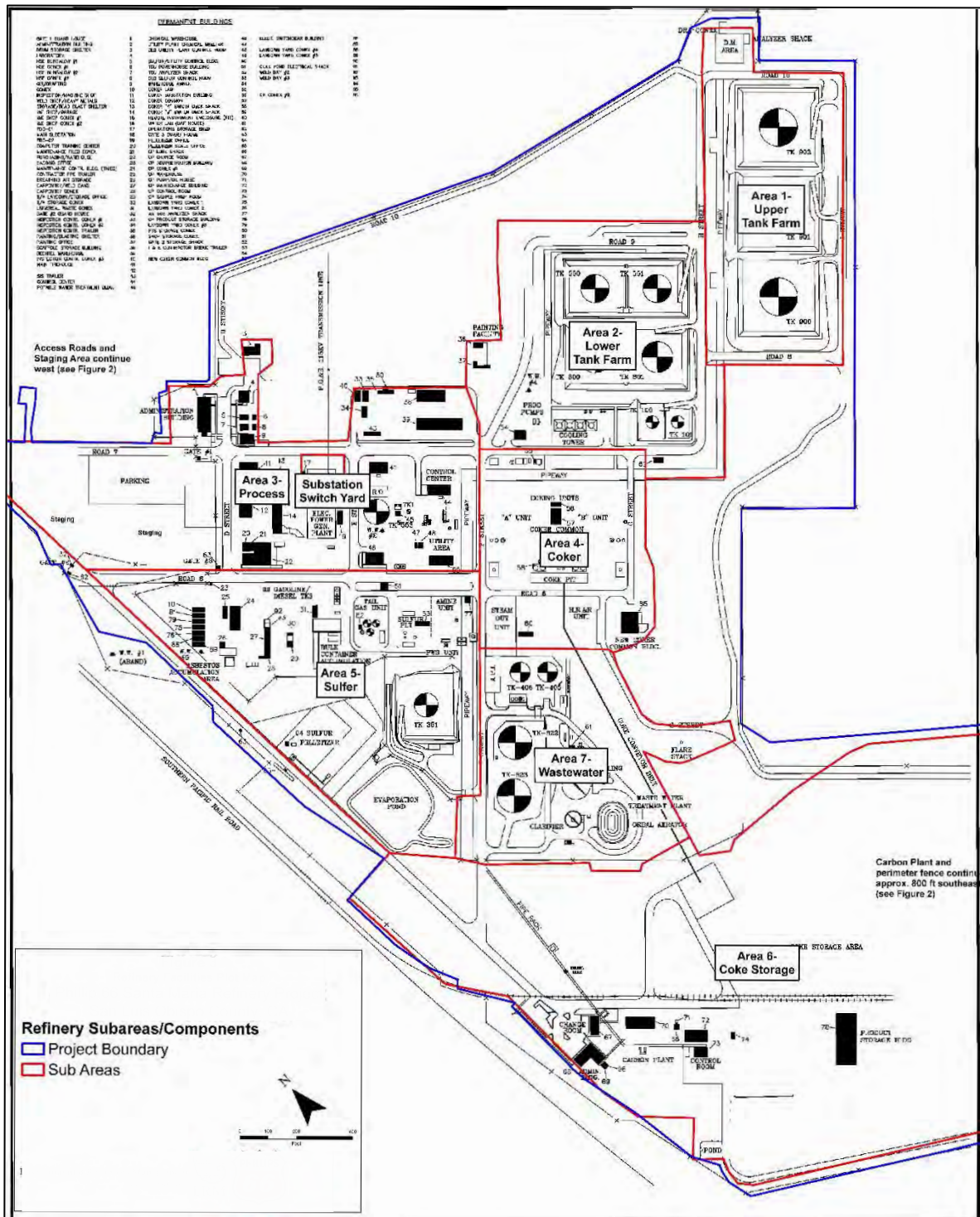
The SMR was built in 1955. Refinery operations occupy approximately 218 acres within the following two adjoining parcels:

- Assessor’s Parcel Number 092-401-011; and
- Assessor’s Parcel Number 092-401-005.

The SMR is located in unincorporated San Luis Obispo County. The site lies within the Coastal Zone, on the Nipomo Mesa generally north of Oso Flaco Lake Road, west and south of Highway 1, and east of Oceano Dunes State Vehicular Recreation Area. The Union Pacific Railroad (UPRR) bisects the property along the western edge of the Refinery site and serves the facility via rail spurs. Figure 2-3 shows the Refinery site details. Refinery sub-areas 1 through 7 are indicated in Figure 2-3; these sub-areas are intended for general reference throughout this Project Description.

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Figure 2-3 Refinery Site



Source: Phillips 66 Application 2023

The SMR site's currently applicable conditions are contained in DP/CDP D890278D (approved September 1990). Associated air emissions improvements were processed concurrently and approved under Minor Use Permit D890530P in August 1990, to enable these improvements to proceed more quickly.

In November 2009, the County accepted a DP/CDP application for the SMR site from Phillips 66 (DRC2008-00146) to increase the daily maximum throughput. An EIR (SCH #20081010111) was prepared for the project and certified with approved findings and conditions on December 13, 2012. One condition required compliance with the standards of Section 23.04.420 of the Coastal Zone Land Use Ordinance (CZLUO) associated with coastal access. Phillips 66 proceeded with environmental compliance for the application in 2014–2015, but in January of 2021, Phillips 66 filed a request to withdraw and abandon that application (DRC2008-00146), except for Condition 17, Offer of Dedication for Coastal Access, and revert back to the 1990 County conditions for SMR operations under County DP/CDP D890287D. The Board approved the request for withdrawal in May 2021. The conditions of D890278D, as well as the requirement for an Offer of Dedication for Coastal Access, currently apply to the site. Phillips 66 has provided an offer of dedication for coastal access.

In 2013, Phillips 66 applied to the County to install a rail spur at the SMR to allow for the receiving of crude oil by rail. The Final EIR was completed in December 2015 (SCH #2013071028) and the project was denied by the Board of Supervisors. The uncertified rail spur EIR included an analysis of coastal access options. This analysis and other data presented in these prior environmental documents provide reference information for review of the current application.

2.3.1 Relationship to Rodeo Renewed Project

In 2023, Phillips 66 received final approval from Contra Costa County to modify the Rodeo Refinery, located in the community of Rodeo, in Contra Costa County, California, in the San Francisco Bay Area, into a repurposed facility that will process renewable feedstocks into renewable diesel fuel, renewable components for blending with other transportation fuels, and renewable fuel gas. Because the Rodeo Renewed Project will discontinue the processing of crude oil at the Rodeo Refinery, the SMR will no longer be necessary to provide feedstock to the Rodeo Refinery. Consequently, Phillips 66 ceased processing of crude oil at the SMR in January 2023. Phillips 66 proposes to proceed with demolition and remediation of the SMR after Project approval.

The Rodeo Renewed Project is described and analyzed in the Rodeo Renewed Project Final Environmental Impact Report (Contra Costa County 2021) prepared by Contra Costa County (Cardno 2022; Contra Costa County File No. CDLP20-02040/State Clearinghouse No. 2020120330 and subsequent Draft Revised EIR October 2023). That EIR contained the following explanation regarding the analytical approach taken by Contra Costa County with respect to the SMR:

Demolition at the [SMR] would be a direct consequence of the proposed Project. Therefore potential impacts of the demolition at the [SMR] are addressed in this EIR. Demolition of the [SMR] will undergo CEQA review by San Luis Obispo County because it has the primary discretionary authority to determine whether or how to approve demolition and issue required county permits. The analysis is

2.0 Project Description

intended to provide both San Luis Obispo County and Contra Costa County, other governmental agencies, and the public with information necessary to understand the type of environmental impacts that could occur.

While the Santa Maria Refinery demolition activities are included in the EIR, future use and required level of remediation of the [SMR] is unknown, and therefore not addressed in this EIR. Any potential future development of the [SMR], and the associated level of required remediation, is speculative at this time, and would be a separate project and evaluated in a separate CEQA process by San Luis Obispo County. The EIR acknowledges this uncertainty and incorporates these realities into the methodology to evaluate the environmental effects of demolition of the [SMR].

Although the full details of site remediation are still not yet known, San Luis Obispo County planning staff has communicated its desire to evaluate both the demolition activities concurrent with the site remediation activities in the same CEQA analysis. Therefore, site remediation activities are contained in this Project Description.

2.3.2 Off-site Pipelines

The Santa Maria Refinery Demolition and Remediation Project does not include disposition of pipelines outside the SMR fence line. The abandonment in place of these facilities was addressed in the Rodeo EIR discussed above. The following information is provided as background information.

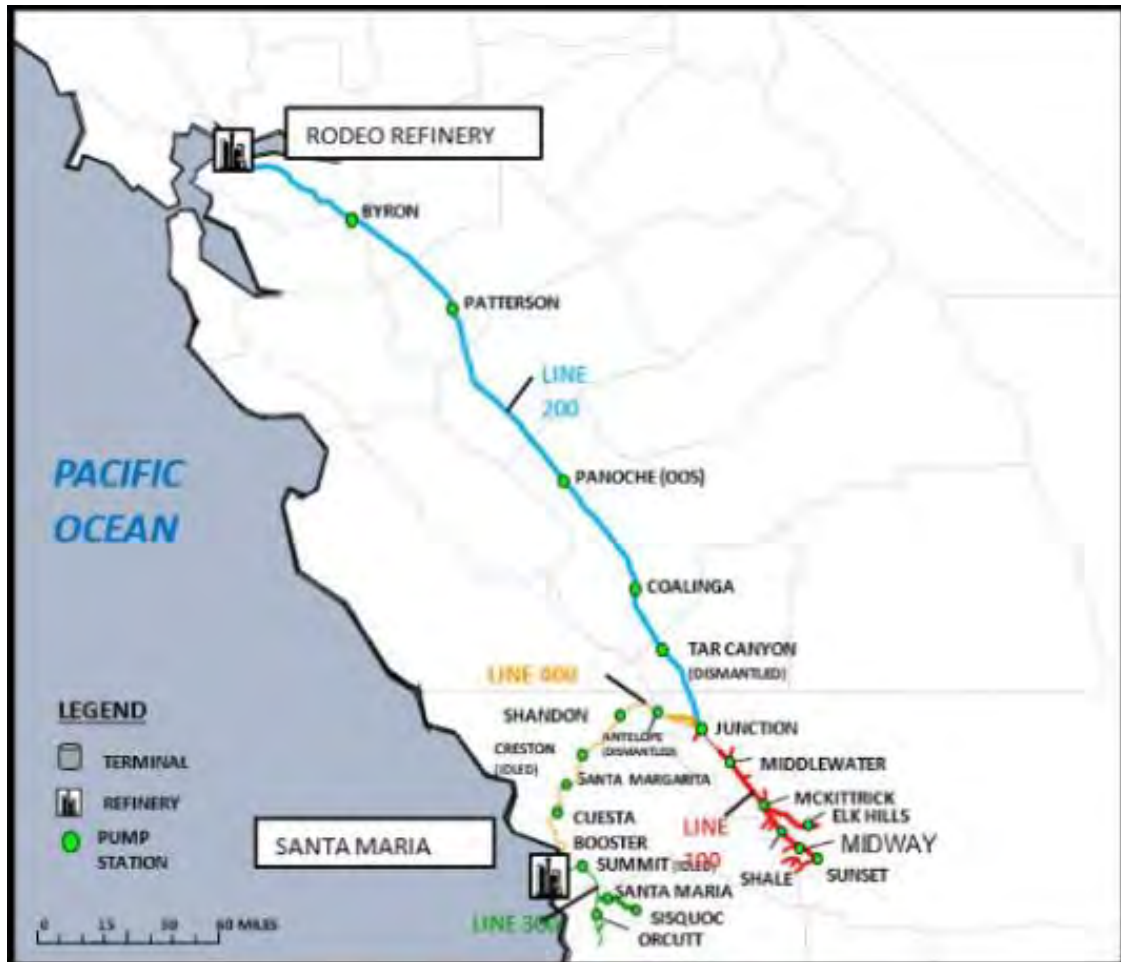
The Rodeo EIR addressed the off-site pipeline system associated with the Rodeo Refinery and Santa Maria Refinery. Specific to the Santa Maria Refinery, the Rodeo EIR at Section 3.3.3 describes “Existing Pipeline Sites” as the four pipelines (i.e., Lines 100, 200, 300, and 400) that transport crude oil and/or pressure petroleum distillate from the SMR Site to the Rodeo Refinery. These lines are described in the Rodeo EIR at Section 3.4.4 and shown on Rodeo EIR Figure 3-5, excerpted below as Figure 2-4.

The Rodeo EIR Section 3.4.4 reads:

The [Rodeo Renewed] Project includes the Pipeline Sites - four regional pipelines serving the Santa Maria Site and the Rodeo Refinery. The Santa Maria Site is connected to the Rodeo Refinery by approximately 200 miles of subterranean pipeline (Figure 3-5), designated Line 400 and Line 200. Line 400 runs north and east from the Santa Maria Site through the Coastal Range of central California in San Luis Obispo and Kern Counties, a region of dry grassland, pasture, and open live oak woodland, to connect with Line 200 north of McKittrick. Line 200 runs northwest up the west side of the San Joaquin Valley, through a mixture of Coastal Range grasslands and pasture and San Joaquin Valley agricultural land, and then west to the Rodeo Refinery. Line 200 runs through Kern, Kings, Fresno, Merced, Stanislaus, San Joaquin, Alameda, and Contra Costa Counties. Two other pipelines - Line 100 and Line 300 - connect the Santa Maria Site to crude oil collection facilities elsewhere in California (Figure 3-5). Line 100 runs underneath San

Joaquin Valley agricultural land and Coastal Range grasslands and pasture lands in Kern County, and Line 300 runs beneath agricultural land and grasslands in the Santa Maria Valley area in San Luis Obispo and Santa Barbara Counties.” (Rodeo EIR Project Description Page 3-21).

Figure 2-4 Off-site Pipelines



Source: Contra Costa County 2021

Removal of pipeline facilities was not examined in the Rodeo EIR, only the abandonment. The following excerpts from the Rodeo EIR provide additional discussion of pipeline disposition.

The Rodeo EIR Project Summary states, in part:

Pipeline Sites collect crude oil for the Santa Maria Refinery and deliver semi-refined feedstock to the Rodeo Refinery and, therefore, would not be necessary. The pipelines would be cleaned and taken out of service, or sold.

The Rodeo EIR Section 3.9.4 describes the general approach to off-site pipeline idling:

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The Pipeline Sites are located throughout the state in San Luis Obispo, Santa Barbara, Kern, Kings, Fresno, Merced, Stanislaus, San Joaquin, Alameda, and Contra Costa Counties. The Project would not involve construction or modifications at the Pipeline Sites (i.e., Lines 100, 200, 300, and 400). Upon completion of the Project, the Pipeline Sites (Figure 3-5) would be unnecessary to transport crude-based feedstocks to the Rodeo Refinery. However, the Pipeline Sites are currently being marketed for sale. If a sale is completed, the pipelines could continue to operate at the discretion of the new owner.

For purposes of analysis, it is assumed that Phillips 66 would decommission the Pipeline Sites. The pipelines would be cleaned and taken out of service, or sold; they would not be excavated as part of this [Rodeo Renewed] Project. Phillips 66 would empty and clean the collection points with pipeline inspection gages (PIGs). The PIGs are inserted into the line via PIG traps. The PIG is then forced through the pipelines sweeping the inside walls along the way by scraping the sides and pushing along any debris with it. PIGs are also used to inspect the interior condition of the pipeline to detect and prevent problems such as corrosion, deformations and metal loss.

Material removed from the pipelines would be handled in accordance with applicable regulations and standard practices, which include processing as much as possible in Phillips 66 refining facilities and disposing of the remainder in approved facilities, including hazardous waste facilities, as appropriate (Rodeo EIR Project Description Page 3-31).

The Rodeo EIR Section 3.11 states, in part:

It is possible that all or a portion of the Pipeline Sites would be transferred to a third-party and/or used in a different service. However, for purposes of analysis it is assumed the pipelines would be decommissioned.

The Rodeo EIR Section 3.12.6.2 provides additional information regarding off-site pipeline idling:

The process of decommissioning the Pipeline Sites would include the following actions, which are anticipated to be completed within 6 months of final process runs:

- *Complete final process runs. Shut down all equipment.*
- *Drain and remove process hydrocarbon contents of equipment. Purge product using nitrogen and a combination of some or all of the following: disc, cup, brush or foam pigging (pigging is the use of a mechanical device, or PIG, to clean and perform other maintenance on pipelines). Specific protocols would depend on the types of material and residuals present in the equipment and its structural design (Rodeo EIR Project Description Page 3-35).*

Note that disposition of the pipelines outside the Santa Maria Refinery fence line is not a part of this Project and is included here only for information and context. These Common Carrier

pipelines will continue to be regulated by the U.S. Department of Transportation and the California Office of the State Fire Marshal. The pipeline terminus within the SMR Project fence line will be retained as part of the off-site pipeline system (see Section 2.4.6 and 2.5.11).

2.3.3 Existing Facilities

The Refinery is comprised of the following functional areas and associated structures (refer to Figure 2-3 for sub-area locations):

- Upper and Lower Tank Farms (Area 1 and Area 2);
- Utilities (Area 3 and facility-wide); includes electrical substation, electrical switchyard equipment, and aboveground poles and conductors;
- Buildings/facilities (facility-wide); includes dual access roads from Willow Road, parking and staging areas, helipad, entry gates, guard house, administration building, machine shop, storage, bulk container accumulation, rail spur (serving the warehouse), and other buildings;
- Coker/flare (Area 4); includes Cokers A & B, Steamout, Hydrocarbon Release and Recovery System;
- Sulfur plant (Area 5); includes Amines A and B, Sulfur Recovery Units A and B, process water stripper, and Tail Gas Unit;
- Carbon plant area (Area 6); includes the sulfur pelletizer area, coke storage area, Pond A, and rail spur;
- Reverse osmosis unit; includes storage tanks and reverse osmosis skids (Area 7);
- Other tankage including decoking, process, waste, and raw waters (facility-wide);
- Stormwater management and conveyances (facility-wide);
- Septic systems with associated leach fields (facility-wide);
- Water Effluent Treatment (WET) plant (Area 7) and associated drainage system, trickling filter, Orbal aeration system, clarifier, and sumps (the WET plant and associated outfall handle refinery wastewater only);
- An active wastewater outfall line; this line is comprised of 12-inch- to 14-inch-diameter pipe that originates at the wastewater plant (Area 7) and runs west through the Pismo/Oceano dunes for two miles to the shoreline and then terminates at a seafloor diffuser located 0.5 mile offshore in State Lands lease Public Resources Code (PRC)1449.1;
- Natural gas line (8-inch), crude line (10-inch) and product line (8-inch) (three lines total); these lines run for approximately 200 feet from the Refinery fence line near the product tank farm to the property line and would remain in place from the pig receiver/launcher to the property line and be blinded from the Refinery (Area 1);
- An idle natural gas line (6-inch); this line runs for approximately 200 feet from the Refinery fence line near the product tank farm to the property line and would remain in place from the pig receiver/launcher to the property line (Area 1); and

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- A bundle of dormant pipelines comprised of an 8-inch gas fuel line, 8-inch oil line, and 4-inch diluent line; these lines were previously cut and capped at the Phillips 66 property boundary. An approximately 1,200-foot segment of this pipeline alignment remains in place on Phillips 66 property extending southwesterly from the Refinery fence line near the wastewater treatment plant (Area 7) to the Phillips 66 property line. These pipelines are already abandoned and safe. No additional efforts are needed.

These facilities are shown in Figure 2-3 and Appendix A, Preliminary Grading Plan Sheet 3A Existing Site Plan. Table 2.2 lists the functional areas.

Table 2.2 Existing Refinery Areas

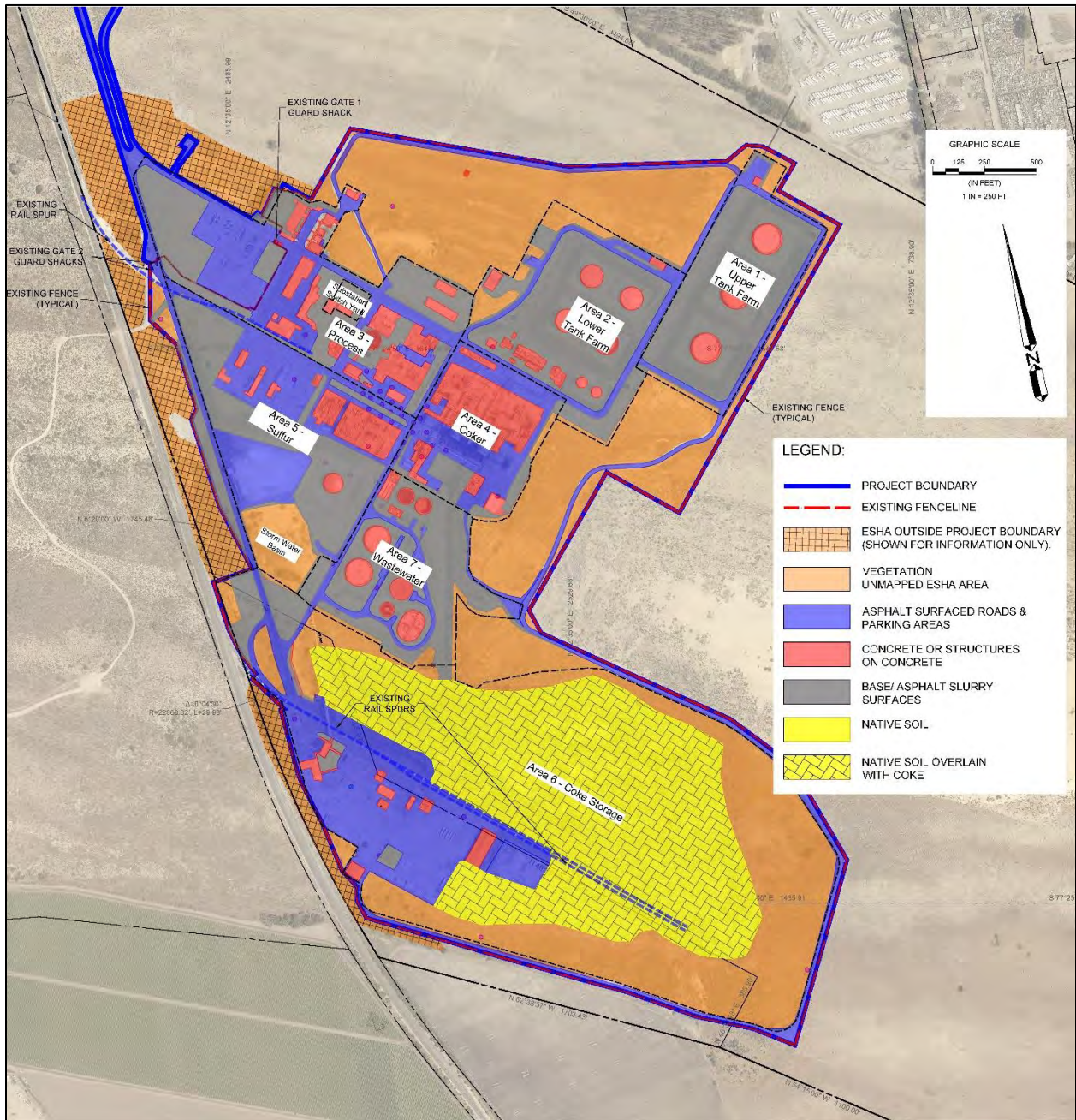
Area	Description	Area, acres
Area 1	Upper Tank Farm	12.3
Area 2	Lower Tank Farm	16.6
Area 3	Process, total area	20.8
	<i>Sub area: acres within the fence line, including the electrical substation switchyard</i>	14.3
	<i>Sub area: acres outside the fence line consisting of the paved parking lots and contractor staging area</i>	6.5
Area 4	Coker	9.7
Area 5	Sulfur	19.5
Area 6	Coke Storage	79.4
Area 7	Wastewater	11.9
Area 8	Remainder of Site, total	48.9
	<i>Sub area: entry roads between the Refinery main gate and Willow Road</i>	3.3
	<i>Sub area: open space within the Refinery fence line</i>	45.6
Total	All areas	217.7

Source: Phillips 66 Application 2023

The existing Refinery site hardscapes, along with areas that are designated as Environmentally Sensitive Habitat Areas (ESHA), are shown in Figure 2-5. Note that no work is planned in open space outside the Refinery fence line.

The combined demolition and remediation project site is approximately 218 acres. Approximately 208.2 acres are within the Refinery perimeter fence line. The remaining approximately 9.5 acres are located outside the facility fence line and consists of paved parking, staging, and access roads between Willow Road and the fenced gate entrance. The respective areas by type are listed in Table 2.3.

Figure 2-5 Existing Refinery Site Hardscape and ESHA



Notes: The remaining ESHA located outside the fence line are shown on Project exhibits for informational purposes and are not a part of the Project).

Source: Phillips 66 Application 2023

Unmapped ESHA within the facility fence line is primarily located along the internal perimeter roadways (facility-wide), within the Coke Storage Area, and around the perimeter of the Coke Storage Area (Area 6 of Figure 2-5).

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Table 2.3 Existing Refinery Area by Type

Area Type	Area, acres
Asphalt-surfaced roads and parking areas	47.1 <i>40.7 inside fence line</i> <i>6.4 outside fence line</i>
Concrete or structures on concrete slab	15.3
Stabilized with base or asphalt slurry	49.1 <i>46.0 inside fence line</i> <i>3.1 outside fence line</i>
Vegetation ESHA	67.4
Native soil overlain with coke (non-ESHA)	38.8
Total	217.7 total <i>208.2 inside fence line</i> <i>9.5 outside fence line</i>

Note: Outside the fence line is primarily the parking lot area.

Source: Phillips 66 Application 2023

2.3.4 Existing Refinery Vehicle Trips and Workforce

SMR operations entail various material deliveries to and from the Refinery and transportation of Refinery products, including solid petroleum coke by rail or haul truck and recovered sulfur by haul truck.

The number of crude oil, sulfur, petroleum coke, and chemical trucks entering the SMR during the baseline period (2017–2021) averaged 37 trucks per day. These trip counts excluded waste disposal truck trips. Daily trip data for the baseline period are provided in the Air Quality Report (dated 15 February 2023 as part of the Applicant Application). These data provide the number of truck trips by material type including crude oil, coke, sulfur, and the number of truck trip miles per day (based on annual average), per quarter, and per year. See Section 4.3, Air Quality.

The on-site workforce varied during the baseline period (2017–2021). The combined number of Phillips 66 employees plus full-time equivalent contractors ranged from a low of 141 in 2021 to a high of 197 in 2019, with approximately 40 on-site employees on weekends. Typically, two security personnel are present during nights and weekends. General Refinery employees include office staff, operators, supervisors, and maintenance technicians.

2.3.5 Existing Water Use

Water use data for the Refinery are reported annually in the Nipomo Mesa Management Area Annual Report for this adjudicated basin. Annual reports for the 14-year period 2008 through 2021 are available online at: <https://ncsd.ca.gov/resources/reports-by-subject/#nmma>.

As noted in the five most recent annual reports, the calendar year groundwater production for the Refinery has been consistent at 1,100 acre-feet per year (AFY). Refer to Table 3-3 of the 2017 report, and Table 3-4 of the 2018, 2019, 2020, and 2021 reports.

As noted in Section 4.2.3 of the 2021 report:

The P66 refinery expects future production to be similar to recent years' production amounts of approximately 1,100 AFY.

This volume is equivalent to approximately 358 million gallons per year (at 325,800 gallons per acre-foot) or an average of 982,000 gallons per day.

2.3.6 Refinery Shutdown, Decontamination and Abatement Activities

In January 2023, the SMR ceased operations. Phillips 66 then began to isolate process-related equipment and piping, remove bulk materials, ship remaining product by pipeline, truck, and rail, and decontaminate process equipment and piping. These activities were performed largely by the existing Refinery personnel, using existing equipment and methods, under the existing operations and maintenance permits held by the Refinery and administered by the San Luis Obispo County Air Pollution Control District (SLOCAPCD) and other agencies. These activities are currently ongoing and planned to be completed in 2023 or early 2024.

Regulated materials and equipment include, but may not be limited to, asbestos-containing materials such as pipe insulation, lead-based materials, universal waste (e.g., fluorescent lamps, lamp ballasts, mercury-containing equipment, batteries, electronic waste, cathode ray tubes, and aerosol cans), used oils and dielectric fluids, and refrigerants. These materials were managed in accordance with ongoing compliance requirements and appropriately removed, collected, segregated, and transported for off-site disposal or recycling in accordance with local, state, and federal regulations.

Asbestos containing materials such as pipe insulation were managed in accordance with ongoing compliance requirements as specified in the facility's Title V permit. Materials were either contained or removed for safety and environmental reasons. This activity is covered under the existing SLOCAPCD Title V permit. The majority of asbestos abatement and removal would be performed during Project demolition (e.g., during removal of structures) and would be performed in coordination with SLOCAPCD.

Regulatory notifications have been filed prior to initiating the abatement and removal activities, including a 10-day asbestos abatement notification to SLOCAPCD and San Luis Obispo County, and a lead work pre-job notification to California Division of Occupational Safety and Health (Cal/OSHA). Abatement and removal work was implemented by properly licensed, specialty personnel. Abated and removed materials were segregated and containerized for subsequent off-site disposal/recycling.

The Refinery stopped producing new product in early 2023 but the carbon plant remains operational until the salable portion of the stockpiled coke material has been removed. Hauling of salable product has continued and is anticipated to be completed in 2025. Salable coke is hauled by a combination of truck and rail. Coke hauling activities are in the baseline historical operations and are not a part of the Project but may continue during the Project demolition and remediation activities. However, as discussed further in Section 2.5.9, overall truck trips, including baseline plus Project, would be managed to remain under the historical baseline of 37 trucks per day.

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Note that the above activities are not a part of the DP/CDP application, except asbestos abatement in aboveground structures and any required remediation of the coke storage area. The other shutdown, decontamination, and abatement activities are described for information and context. The activities described below are part of the Project.

2.4 Project Activities: Aboveground Demolition

This section outlines the proposed approach for demolition of aboveground structures and on the Project site. Aboveground demolition would involve the removal of most of the aboveground facilities at the site. This would include planning, scheduling, personnel, equipment, and site access and staging, each of which is discussed below.

2.4.1 Aboveground Demolition Planning

Prior to initiating demolition work, a pre-demolition engineering survey of the buildings and field structures scheduled for demolition would be conducted by qualified personnel, as required by California Code of Regulations (CCR) Title 8, Section 1734. Supervision. In addition to regulatory requirements and approvals described elsewhere in this Project Description, demolition-related regulatory notifications and permits would be applied for and obtained, including the following:

- Demolition permit(s) from San Luis Obispo County;
- Cal/OSHA notification regarding demolition of structures higher than 36 feet (per CCR Title 8, Section 341); and
- Lead work pre-job notification to Cal/OSHA Division of Occupational Health and Safety.
- SLOCAPCD and NESHAPs requirements associated with regulated asbestos-containing material (RACM) removal.
- SLOCAPCD requirements related to hydrocarbon contaminated soil processes.
- SLOCAPCD requirement related to pipeline purging and odor control plans.
- SLOCAPCD requirements related to lead-based coated structures requirements.

Structures would be demolished top-down, side-to-side, therefore minimizing potential for uncontrolled collapse. Demolition would progress in a systematic manner, largely by the functional areas listed in Section 2.3 and shown on Figure 2-3; however, the actual work areas may differ depending on the aboveground demolition work plans at the time of mobilization. Demolition debris would be segregated, downsized, and processed, as needed, for off-site transportation or on-site reuse. Debris would be managed as it is generated to avoid unsafe work conditions, minimize storm water runoff, and promote good housekeeping. Specific health, safety, and environmental (HSE) protection measures that would be implemented during demolition are described in Section 2.7.

Demolition activities would occur within the Refinery fence line. Outside the fence line, a bundle of pipelines (8-inch gas fuel line, 8-inch oil line, and 4-inch diluent line) that extends approximately 1,200 feet southwesterly from the western fence line to the Phillips 66 property line would be abandoned in place in their current idled and emptied condition. The pipelines have been

previously nitrogen purged and capped in compliance with regulatory requirements. Therefore, these pipelines are already abandoned and safe, and no additional demolition efforts are needed. This alignment is in a sensitive habitat area. Specifically, this pipeline alignment is within the federally designated La Graciosa thistle critical habitat and the San Luis Obispo County-designated San Luis Bay ESHA. Alternative approaches such as grouting and abandonment in place or pipeline removal would disturb native vegetation within this habitat.

Existing groundwater monitoring wells located outside the fence line will remain in place and will continue to be operated and maintained using currently available access points (these wells are not part of this Project).

No physical work is planned on the wastewater treatment system ocean outfall pipeline. Phillips 66’ lease with the State Lands Commission is valid until 2028. Phillips 66 is not proposing to remove the outfall line at this time. Disposition of the outfall would ultimately be determined by the California State Lands Commission.

2.4.1.1 Aboveground Demolition Schedule and Sequence

Aboveground demolition would begin once San Luis Obispo County land use and other required permits have been obtained. Aboveground demolition activities would take approximately eight months to complete, including an initial three-month period of mobilization and abatement and removal of asbestos and other regulated building material. There would likely be one month of overlap between completion of the abatement/removal work and the start of demolition work. Table 2.4 illustrates the anticipated work sequence and durations for these activities, as well as the anticipated maximum daily haul trips and commuter trips. This schedule represents a conservative planning estimate. The schedule may be refined after a demolition contractor is selected, but it is not anticipated to substantially change from this estimate. Additional schedule information is presented in Section 2.5, with consideration of belowground demolition and remediation activities that overlap with aboveground demolition. A further breakdown of demolition activity (truck trips by week during Year 1) is provided in Section 4.3, Air Quality.

Aboveground demolition and associated off-site hauling would take place during daylight working hours, consistent with San Luis Obispo County Ordinance 23.06.042(d). This ordinance for Noise Standards exempts short-term Project excavations, provided such activities do not take place before 7:00 a.m. or after 9:00 p.m. any day except Saturday or Sunday, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday. Demolition activities would occur within the time limitations of this ordinance.

Table 2.4 Aboveground Demolition, Schedule, Haul Trips, and Work Force Summary

Activity	Schedule (Months)							
	1	2	3	4	5	6	7	8
Demolition Activity								
Mobilization and Asbestos/Regulated Material Abatement and Removal								
Aboveground Demolition								
Haul Trips and Workforce								
Haul Trips maximum weekly	4	25	29	23	49	60	16	16

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Table 2.4 Aboveground Demolition, Schedule, Haul Trips, and Work Force Summary

Activity	Schedule (Months)							
	1	2	3	4	5	6	7	8
Maximum Daily Work Force	34	34	45	25	32	20	20	20
Anticipated Total Number On-Site Work Force per Day								
Abatement Removal	34							
Overlap Between Phases	45							
Aboveground Demolition	20							

Source: Phillips 66 Application 2023

2.4.1.2 Aboveground Demolition Personnel

Table 2.4 lists the anticipated maximum on-site workforce personnel during aboveground demolition. In addition, abatement/removal may also be occurring during aboveground demolition. The on-site workforce would vary, with an estimated maximum of 45 workers per day during these activities.

Table 2.4 lists heavy duty haul trips that involve the loading and transport of demolition material (e.g., scrap metal and mixed construction debris). Additional trips will occur during this period for delivery of materials and equipment. Most delivery trips would entail light-duty vehicles. Delivery trips would be on site for relatively short periods of time, as needed, for loading and unloading cargo and general supplies.

2.4.1.3 Aboveground Demolition Equipment

Conventional demolition equipment would be used during aboveground demolition. Heavy equipment would include mobile cranes (including use of the on-site 80-ton crane), excavators, front-end loaders, skid steers, high reach forklifts, man lifts, and water truck. Lighter-duty equipment would include generators and negative air machines (scrubbers and filters) that would be used to abate/remove the regulated materials and demolish the aboveground structures. Explosives would not be necessary to demolish the on-site structures.

Table 2.5 lists the anticipated quantity of each major equipment type by work activity.

Table 2.5 Demolition Major Equipment by Work Activity

Activity	On Sight Heavy Equipment Total Daily Maximum							
	Crane	Excavator	Front End Loader	High Reach Forklift	Man Lift	Water Truck	Street Sweeper	Generator
Abatement and Removal	0	0	0	3	4	1	1	8
Activity Overlap	1	4	1	3	6	1	1	8
Aboveground Demolition	2	4	1	1	2	1	1	4

Notes: The actual types and quantities of equipment used on any given day would vary based on work scheduled for that day.

Source: Phillips 66 Application 2023

2.4.1.4 Aboveground Site Access and Staging

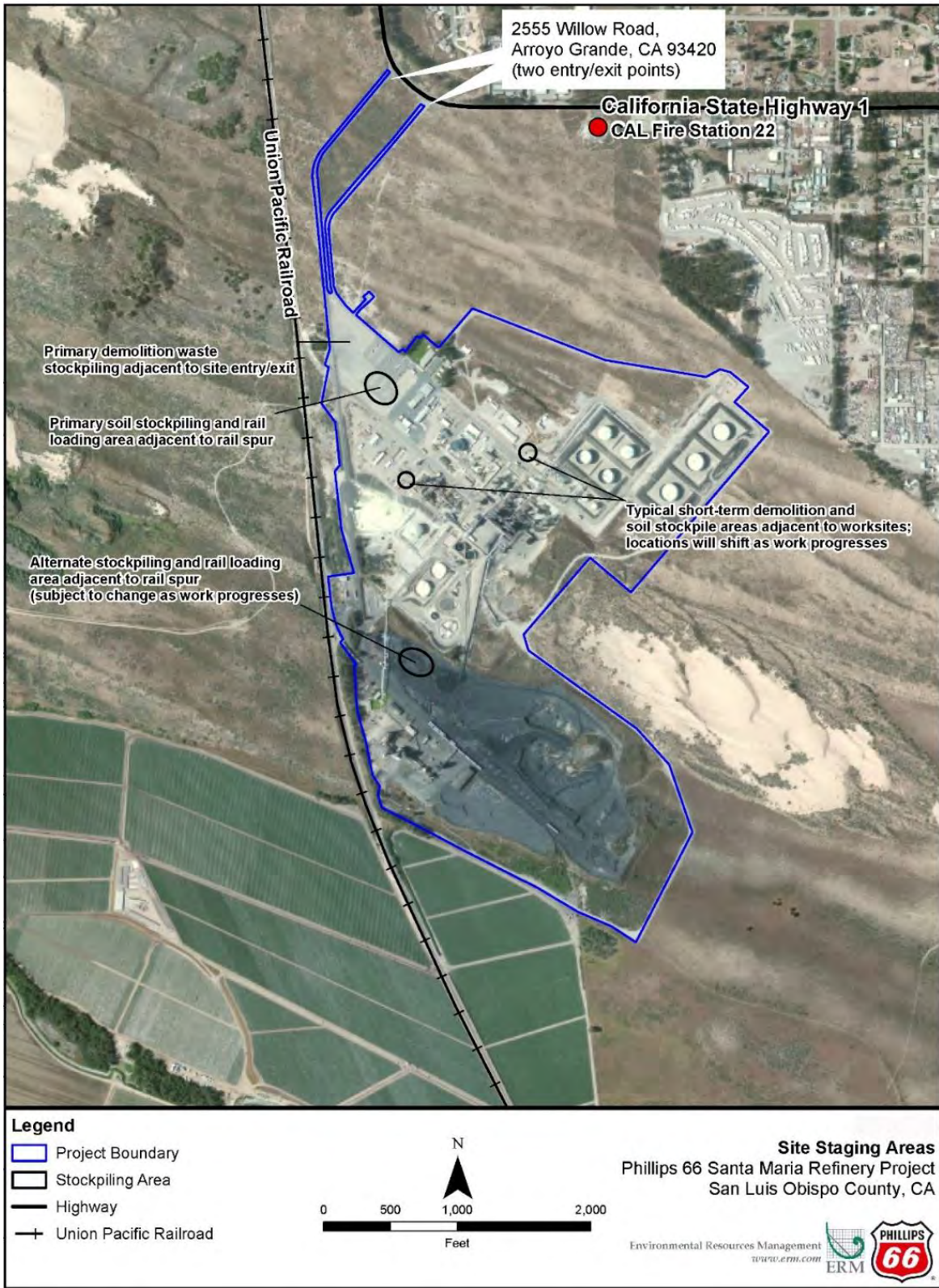
The Refinery's existing perimeter chain-link security fence and gates would remain in place during demolition. Demolition work areas would be accessed using the existing system of access roadways and gates, consistent with current operations. Site security is discussed further in Section 2.7.

Existing on-site parking would be provided for workers and deliveries. Temporary worker administrative, sanitary, and comfort services would be provided within on-site designated areas. Routine vehicular traffic would include construction workers, Project oversight and administrative personnel, security personnel, and delivery drivers. Asphalt surfaces would be retained, as practical, during aboveground demolition in each area.

Equipment, demolition debris, and waste materials would be staged within the various Refinery work areas and existing primary staging area (see Figure 2-6). In addition to the primary designated laydown areas, smaller areas would be used throughout the site for temporary storage and staging of materials and equipment. Demolition staging and support areas may be moved as the work progresses.

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Figure 2-6 Site Staging Areas



Source: Phillips 66 Application 2023

2.4.2 Aboveground Demolition Waste Management

Demolition waste and recyclable materials would be disposed of in accordance with applicable federal and California regulations. Anticipated waste types include asbestos and other regulated building materials, mixed metals, aboveground concrete, treated wood, and mixed debris. Mixed debris refers to construction and demolition materials that are typically not eligible for recycling. Typical mixed debris materials include insulation, wood framing, ceiling tiles, carpet, vinyl tile, ceramic tile, stone tile, and drywall.

Table 2.6 provides the estimated types, weight, and volume of abatement and aboveground demolition waste streams. Demolition planning specialists with experience on similar facilities developed these estimates by conducting an inventory of Refinery facilities accompanied by Phillips 66 on-site personnel. For estimating purposes, facilities were segregated into major categories including buildings, generating plant, utility plant, coker units, fuel tanks, containment tanks and associated piping, tail gas unit, sulfur and amine units, steamout, HC relief unit, water effluent treatment plant, carbon plant, and aboveground storage tanks. For each facility, construction materials were identified (e.g., steel, wood, treated wood, presence of insulation, and aboveground concrete). Dimensions were measured in terms of height, number of levels, length, width, and thickness. These measurements were used by Phillips 66 to calculate tons and cubic yards of aboveground demolition material (steel, other recoverable metals, treated wood waste, mixed debris, aboveground concrete, and asbestos) and corresponding truckloads.

The estimated aboveground demolition volumes assume that all large equipment pedestals, pipe rack pedestals, containment walls and other above-grade concrete would be removed down to existing slab or surrounding grade, and that equipment pads and miscellaneous near-grade raised improvements six inches high or less would likely remain. Near-grade concrete improvements that may remain include various pump and motor pads, linear curbs, sidewalks around structures, and similar low-profile structures.

Based on this analysis, aboveground demolition would generate an estimated 2,200 cubic yards of concrete waste. Stockpiled concrete generated during aboveground demolition would remain on site until it can be consolidated with concrete generated during any necessary belowground demolition. As described in Section 2.5, concrete that is suitable for on-site reuse would be downsized/crushed and reused on site to the extent practical, such as for excavation backfill, and the remainder would be hauled off site and recycled, if practical.

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Table 2.6 Demolition Material Volumes and Off-site Haul Truck Loads

Material	Classification	Volume (cubic yards)	Weight (tons)	Off-site Truck Loads	Disposition Notes
Mixed Metal	Recyclable material	1,100	7,050	390	Transport to a metal recycling facility
Concrete	Recyclable material	2,200	4,350	0	Consolidate concrete with belowground concrete and then crush and reuse on site to the extent practical
Asbestos	Regulated waste (not eligible for recycling)	1,000	350	35	Dispose at a permitted asbestos landfill
Treated wood	Regulated waste (not eligible for recycling)	1,000	1,250	25	Dispose at a permitted landfill
Mixed debris	C&D (partially eligible for recycling)	7,500	5,650	200	Transport to a transfer station for sorting
Total loads transported off site				650	
Waste Breakdown				Cubic Yards	
Total waste generated				12,800	
Total waste generated eligible for recycling				10,800	
Total volume of mixed debris available for sorting and recycling				7,500	
Total mixed debris recycled at 65% recovery rate				4,876	
Total concrete and steel recycled				3,300	
Total quantity of materials recycled				8,176	
Percentage of materials generated to be recycled (Excludes Regulated Waste)				76%	

Notes: C&D = construction and demolition.

Source: Phillips 66 Application 2023

Other waste and recyclable materials would be transported for off-site disposal and/or recycling. An estimated total of 650 truck trips would be needed to transport the aboveground demolition materials to off-site waste disposal and recycling facilities. The following hauling capacity assumptions were used by Phillips 66 to calculate the number of truckloads of each material type:

- Mixed metal: 18 tons per truckload (about 3 cubic yards per truck at 6.4 tons per cubic yard);
- Concrete: 10 cubic yards, 20 tons per truckload;
- Asbestos: 30 cubic yards per truckload;
- Treated wood: 40 cubic yards per truckload;
- Mixed debris: 40 cubic yards per truckload (mixed debris refers to construction and demolition materials that are typically not eligible for recycling and may include insulation, wood framing, ceiling tiles, carpet, vinyl tile, ceramic tile, stone tile, and drywall).
- Soil: 20 tons per truckload (13 cubic yards), 100 tons per rail car (67 cubic yards) at 1.5 tons per cubic yard; and

- **Asphalt:** 20 tons per truckload (10 cubic yards per truck) at 2 tons per cubic yard.

Material transportation for aboveground demolition would take place over an approximately 8-month (30-week) period. As presented in Table 2.4, the maximum weekly haul trips would ramp up during the first 4 months (up to 28 trips per week in month 3), then peak in months 5 and 6 (up to 45 trips per week), and then ramp down in months 7 and 8 (up to 15 trips per week).

Actual quantities of materials to be transported off site would be documented with truck and weight tickets for each load.

Minor grading or excavation may be necessary to complete the aboveground demolition activities. In these cases, excavated soil would be tested and handled in accordance with the procedures described in Section 2.5. Vegetation removal would not be necessary during aboveground demolition except in small, isolated locations.

2.4.3 Aboveground Abatement and Demolition Disposal Facilities

Table 2.7 lists the aboveground abatement and demolition waste materials, estimated haul trips, preliminary disposal locations, hauling distance, and haul routes for the following waste materials:

- **Asbestos.** Asbestos would likely be hauled by rail to a waste facility in Utah consistent with historic practice. Approximately, three to four rail cars would be required. Alternatively, if trucks are used, then an estimated 35 truck trips would be required;
- **Treated wood.** An estimated 25 truckloads of treated wood would likely be hauled to the Santa Maria Landfill in Santa Maria or to the Cold Canyon Landfill in San Luis Obispo;
- **Mixed metals.** Mixed metals would make up the largest number of haul trips (390) and be transported to one or more regional recycling facilities, depending on capacity at the time of the Project;
- **Mixed debris.** An estimated 200 truckloads of mixed debris would likely be hauled to the Santa Maria Transfer Station in Nipomo for sorting or potentially to Cold Canyon Landfill; and
- **Concrete.** As discussed above, concrete would be consolidated with material generated during belowground demolition and remediation, and it would be either crushed and reused on site or hauled off site, as described further in Section 2.5.

2.4.4 Aboveground Demolition Designated Haul Routes

Demolition-related equipment and material delivery vehicles and waste hauling trucks would use the existing designated haul route between the Refinery entry/exit points and the Willow Road/U.S. 101 interchange. From the site entry/exit on Willow Road, this route runs 1.25 miles east on SR 1/Willow Road to the Willow Road intersection, and then east on Willow Road for approximately four miles on Willow Road to the Willow Road/U.S. 101 interchange. This route is shown in Figure 2-7, and haul routes to specific disposal locations details are also shown in Figure 2-8.

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Table 2.7 Aboveground Abatement and Demolition Waste Hauling Destinations

Waste Material	Truck Haul Trips	Disposal Transportation Mode and Destination	One-way Off-site Truck Haul Distance (Miles)	Transport Route
Asbestos	35	By rail to Republic Services ECDC Landfill, East Carbon City, Utah (or by truck to Veolia, 107 South Motor Ave., Azusa CA 91702)	200	Interstate rail to Utah or by truck via US Hwy 101 and CA 134 (or other regional highways in Los Angeles region)
Treated Wood	25	By truck to Santa Maria Landfill, 2065 E. Main Street, Santa Maria, CA ^a (or to Santa Maria Transfer Station in Nipomo)	23	Willow Road to U.S. 101 south, east on E. Main Street
Mixed Metal	390	By truck to SA Recycling (Bedford Enterprises, Inc.) 1599 W. Betteravia Road Santa Maria, California	22	Willow Road to U.S. 101 south, west on Betteravia Road (or west on E. Main Street, south on Black Road, and east on Betteravia Road)
Mixed Debris	200	By truck To Santa Maria Transfer Station 325 Cuyama Lane Highway 166 Nipomo, California	11	Willow Road to U.S. 101 south to Cuyama Lane
Concrete ^b	0	On-site disposal	NA	NA

Notes: Haul distances are measured from the SMR facility entry/exit points at Willow Road. Excludes on-site hauling. This table presents haul truck equivalents, assuming 33 cubic yards per haul truck. The primary haul mode would be via rail, and an alternate disposal location is via truck to a regional facility. NA = not applicable.

- a. An alternate disposal location is Cold Canyon Landfill at 2268 Carpenter Road, San Luis Obispo, approximately 22 miles from the Refinery and accessible via Willow Road to 101 north, north on Price Canyon Road, and south on Carpenter Canyon Road. The haul distance from the SMR to either landfill is roughly equal.
- b. Concrete would be consolidated with belowground concrete material and then crushed and reused on site to the extent practical. A portion of the concrete may be transported to an off-site handling facility, such as Gator Crushing and Recycling, located on Willow Road adjacent to the SMR.

Source: Phillips 66 Application 2023

Figure 2-7 Haul Routes and Destinations - General



Source: Phillips 66 Application 2023

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Figure 2-8 Haul Routes and Destinations - Detail



Source: Phillips 66 Application 2023

Materials hauled by rail would utilize existing Union Pacific rail routes. Trains servicing the Project would be delivered to the SMR by UPRR. The UPRR lines are shown in Figure 2-9. Trains would access the SMR via the Union Pacific Coast Line, which runs from San Jose to about Moorpark. Freight rail services along this line are operated by UPRR, providing service that roughly parallels the Highway 101 corridor between San Jose in the north, and Camarillo in the south. Trains would not utilize the Santa Maria Valley Railroad system.

Figure 2-9 UPRR South-Western Area Freight Rail Lines



Source: UPRR Maps I-5 Region, <https://www.up.com/aboutup/reference/maps/>

2.4.5 Aboveground Demolition Vehicle Trips

The maximum number of haul truck trips during the 8-month abatement and aboveground demolition period (excluding belowground demolition and remediation activity) is anticipated to peak at 45 trips per week (an average of less than 10 trips per day) during Month 6. In all months of aboveground demolition, average daily trips are anticipated to be under the baseline level of trucking. Trip estimates for the combined aboveground and belowground and remediation activities are presented in Section 2.5.

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The on-site workforce would vary, with an estimated maximum of 45 workers per day during the 8-month abatement and aboveground demolition period.

Abatement and demolition workers are anticipated to originate from nearby Central Coast communities. On-site personnel are anticipated to commute on average 22 miles each way; for reference, this is approximately the distance between the City of San Luis Obispo and the Refinery or between the City of Santa Maria and the Refinery.

2.4.6 Aboveground Demolition Water Supply and Demand

Water uses during demolition would include sanitary/comfort needs, dust control, equipment washing, and other incidental uses. The total estimated water demand for demolition is 900,000 gallons per year (2.8 acre-feet per year). This estimate assumes 180 days of work at a typical rate of 5,000–6,000 gallons per day, over the course of one year. Demolition work would typically include two on-site water trucks of 2,000-gallon capacity and apply 5,000 to 6,000 gallons per day, primarily for localized dust control. Water would be sprayed onto aboveground structures as they are cut, and as cut materials are staged, to capture fugitive dust from concrete, drywall, and other building materials. Cutting and staging would take place on hard surfaces, with no soil disturbance. Usage could be greater if there were longer haul trips.

2.4.7 Post-Aboveground Demolition Condition

This section identifies the facilities that would remain at Project completion, and those facilities that would remain after aboveground demolition to be removed during belowground demolition and remediation (refer to Figure 2-3 for Area locations).

- These facilities would remain after aboveground demolition and at Project completion:
 - Internal roads (facility-wide);
 - Rail spurs (Area 3, Area 5, and Area 6);
 - Truck scale (west of Area 5);
 - Berms (Area 1, Area 2, and facility-wide);
 - Asphalt areas (facility-wide);
 - Water supply wells (Areas 2, 3, 5, and 6);
 - Phillips 66-controlled electrical substation and Pacific Gas and Electric Company (PG&E) power line to the substation, and telecommunications line (Area 3);
 - Natural gas supply pipeline blinded at the fence line (Area 1);
 - Non-contact storm drain system and conveyance to Stormwater Basin (Evaporation Pond) (conveyances are facility-wide, Stormwater Basin is in Area 5);
 - Wastewater outfall line (Area 7);
 - Buried pipelines (facility-wide);
 - Equipment and structural foundations, generally to within six inches above grade level (facility-wide); and

- Monitoring wells (facility-wide) and slop oil remediation tank (Area 3).
- These facilities would remain after aboveground activities but would be removed during belowground demolition and remediation:
 - Water tank TK-553, fire/industrial water tank (Area 3);
 - Buried pipelines (as needed to accommodate remediation);
 - Equipment and structural foundations, generally to within six inches above grade level; (as needed to accommodate remediation);
 - Septic systems (Areas 3, 4, 5, and 6); and
 - Temporary offices (Area 3).

As noted, some of these facilities would be removed as necessary during belowground remediation (e.g., foundations and belowground pipeline) in order to complete remediation. Some facilities would remain until the later stages of belowground work to support work activity (e.g., fire water tank, septic leach fields). The facilities remaining on site at completion of remediation and belowground activities are described further in Section 2.5.15 Post-Remediation Condition and shown in Appendix A on Preliminary Grading Plan Sheet 9A.

2.4.8 Pre-Existing Site Conditions and Remediation Considerations

Planning estimates of existing or potentially present impacts on soil and groundwater rely on the current understanding of site conditions based on the following data sources:

- Previous site assessments (investigations that included data collection that delineated potential impacts following the discovery of a release);
- Release reporting (documentation produced by the SMR to catalogue leaks and releases, some of which included data collection);
- Observational information (documentation, excluding chemistry data, of potential impacts such as leaks or soil staining found in site assessment reports); and
- The SMR site-wide groundwater monitoring program, Central Coast RWQCB Monitoring and Reporting Program No. R3-2008-0070.

Of these sources, the site assessment reports and the groundwater monitoring program provide the best data for characterizing current site conditions because these documents include soil and/or groundwater chemistry data. Data sources include a Phase I Environmental Site Assessment that was prepared for the Refinery. The findings, conclusions, and recommendations from this report are provided in Appendix A. These data were used to develop the preliminary remediation plan describing where known impacts occur. The preliminary remediation plan also includes hypothetical impacts that may require remediation in other portions of the SMR (i.e., areas in which a release may have occurred but has not been discovered). For these areas, quantitative data limitations exist. There is either observational information that suggests a release may have occurred (e.g., documentation of leaky valves or stained soil) or facility uses and activities in that portion of the site are potential sources of contamination. For example, even if evidence of a release

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is lacking, there is the possibility that impacted material is present underneath an existing aboveground storage tank.

The following subsections describe major features of the site, areas of known impacts that require remediation (or continuation of ongoing remediation), and areas where data are lacking. For areas where data are lacking, assumptions were made regarding the potential extent of remediation for the purposes of this Project Description. These areas are shown in Figure 2-10.

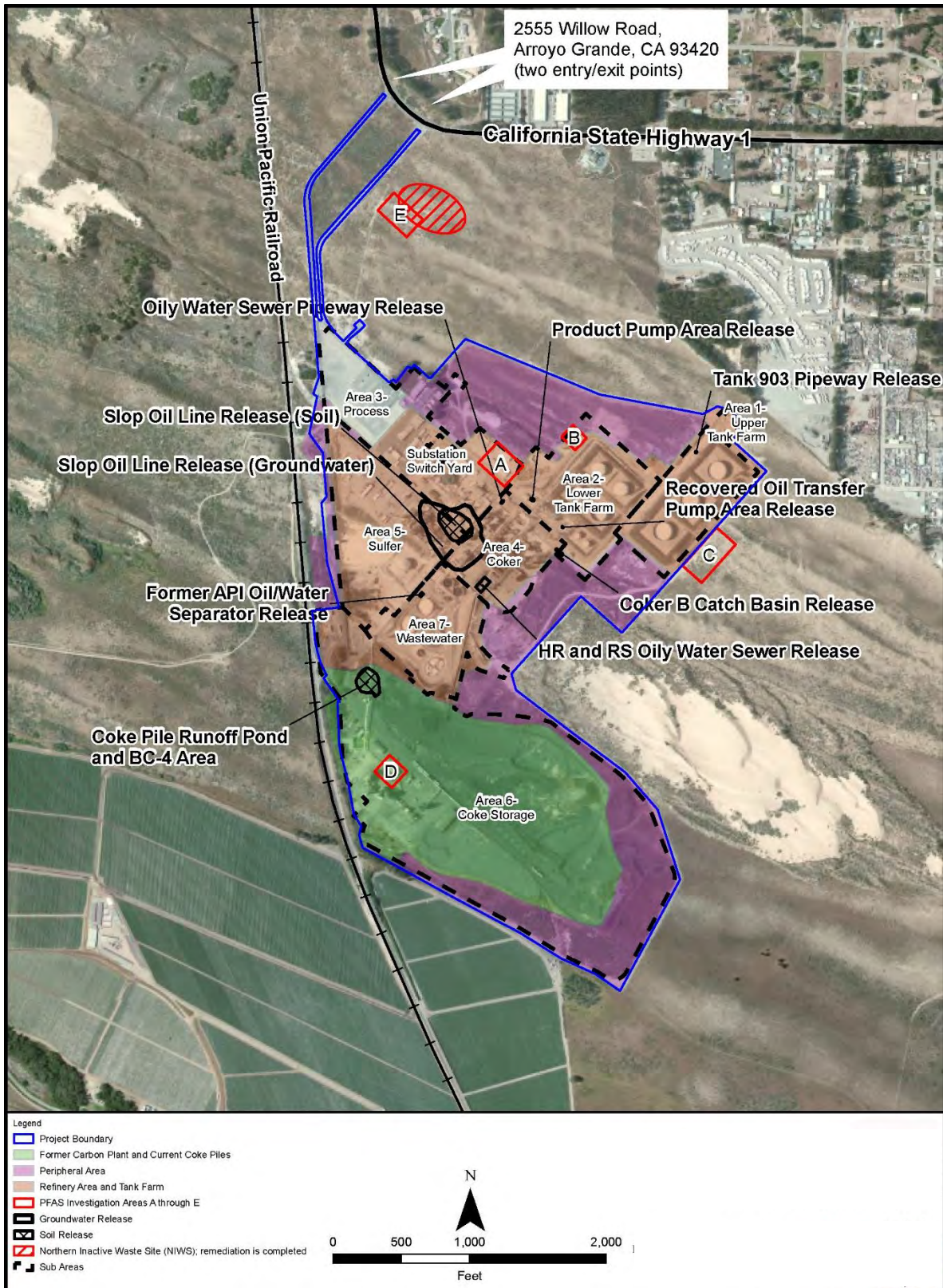
2.4.8.1 Ongoing Remediation and Monitoring Activities

The SMR site has some historical contamination of soils and groundwater, remediation of which is currently ongoing in some areas. Phillips 66 indicates that it is currently coordinating its investigation and remediation programs for identified releases with the RWQCB. Below is a list of areas with known or potential contamination. These areas are shown in Figure 2-10:

1. Tank 903 Pipeway Release (Area 1);
2. Recovered Oil Transfer Pump Area Release (Area 2);
3. Product Pump Area Release (Area 2);
4. Slop Oil Line Release (Area 3);
5. Oily Water Sewer Pipeway Release (Area 3);
6. Northern Inactive Waste Site (NIWS) (north of Area 3);
7. Coker B Catch Basin Release (Area 4);
8. HR and RS Oily Water Sewer Release (Area 4);
9. Coke Pile Runoff Pond and BC-4 Area (Area 6);
10. Former API Oil/Water Separator Release (Area 7);
11. PFAS Investigation Areas A (Area 3), B (north of Area 2), C (south of Area 3), and D (Area 6); and
12. Coke Pile Remediation (Area 6).

Existing site conditions and remediation planning assumptions for the SMR are detailed below. Planning assumptions would be refined after collection and analysis of additional site characterization data to fill current data gaps. Additional data collection may be performed prior to, and concurrent with, aboveground demolition where feasible (i.e., where it would not interfere with existing operations or demolition activities). Additional characterization by Phillips 66 may also be performed after aboveground demolition to provide safe access to belowground soils.

Figure 2-10 Ongoing and Potential Remediation Activities



Source: Phillips 66 Application 2023

2.4.8.2 Peripheral Areas

Peripheral areas within the Project limits consist of the three general areas discussed below: 1) developed areas within and outside the Refinery fence line that are separated from operating equipment areas. These developed areas include access roads and contractor staging and parking between Willow Road and the Refinery gates, helipad, administrative buildings, fence line perimeter roads, and interior parking lots; 2) undeveloped open space within the Refinery fence line; and 3) undeveloped open space outside the Refinery fence line.

Developed Areas Separated from Operating Equipment Areas. Pending further confirmation studies, soil conditions within these developed areas (i.e., access roads, staging areas, administrative buildings, parking lots) are likely to have low or no significant levels of impacted soil. However, conservatively high estimates of impacted soil are assumed in order to cover the unlikely event that undetected releases have occurred in these areas. Soil volume estimates for these hypothetical releases are included in the soil volume estimates.

Open Space Within the Refinery Fence Line. Vegetated areas within the fence line are composed primarily of non-native veldtgrass intermixed with native species identified as ESHA. Approximately 67 acres of ESHA is located inside the fence line, generally near the site perimeter (see Figures 2-5 and 2-11). Areas currently in ESHA within the fence line could be impacted by surface demolition and/or remediation activity. For example, access may be needed to reach existing abandoned water wells that need to be capped. The final contour for these potential activities would be unchanged; therefore, no new hardscape areas are anticipated. Any areas of existing ESHA that are affected by this activity would be revegetated.

Approximately 26.5 acres of open space within the Refinery fence line overlap with areas of potential historical debris or materials (refer to Preliminary Grading Plan Sheet 16A and 17A, areas noted as “Disturbed ESHA” and further broken down as “ESHA A” through “ESHA L”). For example, open space in the northern portion of the Refinery includes features such as ditches and unspecified fill areas for which there are observations or reports of unspecified debris or materials that were historically disposed (refer to Appendix A, Preliminary Grading Plan Sheet 16A and 17A, areas noted as areas “Disturbed ESHA A” through “Disturbed ESHA D”). There is limited contemporary evidence of impacted soil impacts in these features. For this analysis, and pending further confirmation studies, it is assumed that these areas have some degree of impacts, and a portion of these areas would require remedial action to remove impacted material. Soil volume estimates for these areas are included in the soil volume estimates.

Open Space Outside the Refinery Fence Line. Vegetated areas surrounding the Project site are composed primarily of non-native veldtgrass intermixed with native species identified as ESHA. No demolition or remediation ground disturbance is planned within open space areas outside the Refinery fence line.

Remediation previously permitted on Phillips 66 property in areas outside the Project boundary are not part of the Project. In particular, remediation of the Northern Inactive Waste Site (NIWS) was recently completed. RWQCB has issued a No Further Excavation letter for this site. However, site restoration under the County’s grading permit PMTG2020-00056 is ongoing and is expected to be completed in three years.

2.4.8.3 Refinery Areas and Tank Farm (Areas 1, 2, and 3)

The Refinery areas and tank farm include the SMR petroleum refining, conveyance, and tank storage facilities. It also includes supporting facilities such as the utility plant, wastewater treatment facilities, warehouses, and maintenance facilities. It does not include the former carbon plant or coke piles, which are described separately below. A number of documented releases have occurred within the Refinery areas and tank farm that necessitated a site assessment that included collecting soil data. Data from the release assessments were used to delineate the approximate extent of impacted soil not excavated as part of a corrective action (e.g., soil left in place and covered with a pavement cap). Soil volume from these delineations were included in the soil volume estimates.

With the exception of the site assessments noted above, soil data are not available for identifying or delineating impacts. For portions of the Refinery areas and tank farm without soil data, other available information was used to estimate soil volumes. The SMR implements spill response and reporting procedures upon discovery of a release, including notification of the agencies when notification criteria are met. The logs from this program describe where the release occurred, what material was released, and what actions were taken to mitigate the release. If impacted soil was not removed as part of the mitigation measures, this information was used to estimate volumes of impacted soil in the areas in which they occurred. Additionally, many of the facilities and aboveground storage tanks located in the Refinery areas and tank farm process, convey or store petroleum, or other potentially hazardous constituents, which if released, could impact soil. Some of these facilities have documented observational information from baseline environmental assessments and Phase I investigations suggesting releases may have occurred (e.g., leaking valves, staining, etc.). For the purpose of estimating the remediation volume, it was assumed that releases have occurred from facilities that have either observational evidence of releases or involve activities that include hazardous constituents. The estimated severity of these hypothetical releases was based on the volumes and durations of releases implied by observational evidence, as well as the types of hazardous materials that were potentially released.

2.4.8.4 Former Carbon Plant and Coke Pile Area (Areas 4 and 6)

The former carbon plant and current coke piles occupy the southeast portion of the Refinery. At the request of the Central Coast RWQCB, Phillips 66 assessed potential impacts on soil and groundwater from coke processing operations and storage (SECOR 2001). The assessment investigated potential contamination from coke and coke process water and included collection of analytical chemistry samples from coke in the piles, leachate samples from coke, process and pond water, soil beneath coke piles, soil leachate, soil-pore moisture, and ground water under and around the carbon plant and coke pile area. The study concluded that unprocessed coke had moderately high petroleum hydrocarbons and elevated metal concentrations. Processed coke contained very low petroleum hydrocarbons and metal concentrations. All other media sampled (water, soil, leachates, pore-moisture, and groundwater) had minimal to non-detectable concentrations of contaminants. Thus, the study concluded that the carbon plant and coke piles were not a significant concern for soil and groundwater contamination, with the exception of a small area around a runoff pond, referred to as the “BC-4 area” (Figure 2-10). At this location, biogeochemical processes were potentially causing low pH in groundwater that periodically mobilized metals in soil, raising

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metal concentrations in groundwater. The study also noted that coke was not mixing with underlying soil, as evident by a visibly sharp transition between coke and soil.

As noted previously, coke is a carbon by-product of the refining process which Phillips 66 continues to sell to buyers. It is assumed that much of the coke present on site could be sold and would not require remediation and off-hauling. However, the perimeter of the storage pile has areas of lower-quality coke that may be considered “non-salable” (e.g., due to high sand content); some of these areas have been undisturbed for a number of years. These undisturbed areas are covered by a mix of native and non-native vegetation that has been identified as containing ESHA. In general, pending further site investigation, it is possible that all of the non-salable material would remain in place.

However, it is also possible that some residual non-salable coke and a shallow horizon of underlying soil would need to be excavated and hauled off site either prior to or during remediation due to regulatory requirements. For planning purposes, soil volume from the coke pile was estimated based on the ground surface area of the coke pile and an assumed shallow excavation depth; this volume is included in the remediation soil volume estimate. To the extent that coke underlying ESHA designated vegetation is removed, the disturbed vegetation would be stabilized and restored using appropriate plant palettes and seed mixes that would be selected during the detailed planning phase.

For a conservative evaluation of grading quantity for the Project, it is assumed that soil under the former carbon plant may be impacted from former industrial activity. It is also assumed that the coke pile runoff retention area that potentially causes periodic groundwater pH issues would be excavated to eliminate the source. Conservative material estimates from these areas are included in the remediation soil volume estimate. These areas would be investigated during site characterization to confirm whether excavation of impacted soil is needed and to what extent.

In the easternmost corner of Area 6, sensitive habitat was restored in 2014 under PMT2013-00473, as mitigation for site remediation in the Coke Storage area. This remediation area would remain undisturbed as identified in Appendix A, Preliminary Grading Plan Sheet 10A.

2.4.8.5 Slop Oil Line Release (Areas 3, 4, and 5)

The Slop Oil Line Release potentially impacted both soil and groundwater (Figure 2-10). The release was discovered in April 2016 and subsequent investigations discovered that a light non-aqueous phase liquid (LNAPL) plume covers approximately 3.7 acres beneath the central portion of the SMR. The cleanup activities are performed under Central Coast Water Board oversight (GeoTracker Case #SL203121248). Manual extraction of LNAPL was conducted as an interim remediation measure. A long-term Hydrocarbon Recovery System, referred to as the SMR Groundwater Remediation Project (GWRP), was installed and the system was brought online in April 2023 as part of the Slop Oil Line Release remediation activities. Central Coast Water Board staff will continue to oversee implementation of the Slop Oil Line Release remediation activities and the post-remediation groundwater monitoring activities and will determine when the cleanup is complete.

The SMR GWRP consists of 12 recovery wells, seven monitoring wells, a 15-horsepower air compressor, and a 1,380-barrel aboveground holding tank. The tank has a diameter of 10 feet and is 15 feet tall. The recovery wells are below grade and enclosed in concrete vaults. The delivered air to and recovered material from the recovery wells are transferred by piping, both below and above grade. The fluid from the recovery system is stored in an aboveground tank on site and then a vacuum truck picks up the fluids and transports the fluid to the Phillips 66 Los Angeles Refinery in Wilmington, CA. Phillips 66 anticipates transfers from the Santa Maria Refinery about every two months for up to 20 years (per RWQCB estimates).

The current RWQCB requirements for the Slop Oil Line Release do not require soil excavation for remediation. However, to be conservative on the volume of soil excavation, the Phillips 66 soil volume estimate assumes impacted soil (estimated from site assessment data) would be excavated, including excavation needed to remove the LNAPL.

In addition to the Slop Oil Line remediation system, there is an existing stormwater basin located in Area 5 which has vegetative overgrowth including sensitive species identified as ESHA. It is not anticipated that soil remediation is necessary in this area; however, the vegetation would be cleared to restore basin function.

Based on the most recent ten years of groundwater data, with the exception of periodic impacts on groundwater in the BC-4 area and groundwater impacted by the Slop Oil Line Release, there is limited evidence of groundwater impacts elsewhere beneath the site that necessitate remediation. However, the additional sitewide sampling performed as part of the Project may identify additional areas where groundwater impacts need to be investigated.

2.4.8.5 PFAS Investigation Areas

A Per- and polyfluoroalkyl substances (PFAS) Preliminary Site Investigation was performed in 2022. A report of findings was submitted to the Central Coast RWQCB on February 17, 2023, related to potential PFAS-containing material at four locations identified as areas with historical storage/use of firefighting foam and one location where disposal of PFAS-containing material may have occurred. PFAS investigation areas, referred to as Areas A through E, are shown in Figure 2-10. Area A is comprised of two buildings that were formerly used to house fire engines that stored Aqueous Film Forming Foams (AFFF). Area B is comprised of the handheld fire extinguisher training area. Area C is comprised of the foam training area and was used to conduct AFFF training exercises. Training with AFFF was ceased during the first quarter of 2018. Area D is a building designated as the Storage House. Fire Engine 1 and the foam tender are stored in this building. Both vehicles contain AFFF. The foam tender contains a 2,000-gallon tank. Area E is comprised of the NIWS. PFAS was not encountered in soil or groundwater during the investigation work at the NIWS. The full extent of per- and polyfluoroalkyl substances (PFAS) identified in soil and groundwater during initial site investigation activities in 2022 have not been fully delineated.

2.4.8.6 Site-Wide Groundwater Monitoring

The SMR conducts a site-wide groundwater monitoring program (Monitoring and Reporting Program [MRP] No. R3-2008-0700) that has been in place for over two decades. Data are collected semiannually, with monitoring reports viewable through GeoTracker (Case #SL203121248). The Central Coast RWQCB is in the process of revising MRP No. R3-2008-0070. The locations of

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existing groundwater monitoring wells are shown in Appendix A, Preliminary Grading Plan Sheet 3A (sourced from Trihydro 2022).

As noted above, remediation of hydrocarbon-impacted soil was recently completed at the NIWS (Figure 2-10). The NIWS currently has post-excavation groundwater monitoring to verify whether the waste associated with the NIWS has impacted groundwater. In addition, final site restoration and revegetation compliance is in process for closeout of County Grading Permit PMTG2020-00056.

For the purpose of this Project Description, the most recent 10 years of groundwater data were reviewed to evaluate the potential need for remediation associated with groundwater impacts. With the exception of periodic impacts on groundwater in the BC-4 area and groundwater impacted by the Slop Oil Line Release, there is limited evidence of groundwater impacts elsewhere beneath the site that would necessitate remediation. The two exceptions noted above would be addressed as part of site-wide remediation, and the estimated volumes are included in the remediation soil volume estimate.

Independent of the groundwater data review, the SMR would conduct a per- and polyfluoroalkyl substances investigation in accordance with Order WQ 2021-0006-DWQ. The SMR's workplan for this investigation is currently under RWQCB review. The workplan and other available documentation for the per- and polyfluoroalkyl substances investigations are viewable on GeoTracker (Case #T10000017182). These groundwater monitoring and investigation efforts are ongoing under RWQCB oversight, under separate regulatory programs, and are not a part of this Demolition and Remediation Project.

2.4.8.7 Area 6 Coke Pile Historical Remediation

Contamination was identified in the eastern area of Area 6 (Coke Pile) in 2013. This area was remediated by removal of portions of soil and debris mounds containing vanadium and nickel. A total of 106 rail cars were loaded, covered, and shipped to waste receiving facility in Utah. The area was restored with habitat.

2.5 Project Activities: Site Remediation and Belowground Demolition

This section outlines the proposed approach for soil remediation and associated belowground demolition, where necessary. It also describes the conceptual remediation plan developed for this Project to estimate the types and volumes of impacted soil that would be managed during remediation and the logistics plan for the belowground demolition and remediation work, including on-site reuse and off-site disposal plans for various materials.

2.5.1 Remediation and Belowground Demolition General Approach

Site characterization testing would be performed after aboveground demolition to determine where contaminated soils must be removed (see Section 2.5.2 below). The assumptions to preliminarily identify specific areas and volumes of hardscape disturbance and potential re-hardening of those areas are discussed in Section 2.5.3.

Where testing indicates remediation is required, hardscape surface cover and clean soils would be removed and set aside. Belowground piping in the remediation area would be purged and cleaned prior to excavation. Piping requiring removal to accommodate soil remediation would be cut and capped and the cut sections would be removed. Remediation excavation would be performed until required clean-up standards are met. Where remediation is not needed, belowground infrastructure and surface hardscape would not be removed (see Section 2.5.3.3).

Contaminated soil and excavated material would be loaded and hauled off site for disposal. Clean borrow soil from Area 6 (Coke Pile area and north side of the rail spur) and clean soil from the excavated area would then be used for backfill and the final surface would be closed with removed and replacement hardscape (concrete slurry, crushed concrete, base) or revegetated (if the area was vegetated prior to remediation). The Project assumes that a maximum facility-wide volume of 200,500 cubic yards of contaminated soil export could result, and that grading and excavation would be confined to the extent possible in order to retain existing hardscape or vegetation. Disturbance and re-hardening could potentially occur anywhere on existing hardscape or vegetated areas. The volume of re-hardening material would depend on the surface area of disturbance and thickness of the hardening material. Clean hardscape material may need to be imported to supplement the existing site backfill material to restore the removed hardscape.

All disturbance areas would be stabilized to reduce the potential for fugitive dust. Where hardscape is removed, the disturbed area would be replaced with hardscape. For areas that are revegetated, the appropriate plant palettes and seed mixes would be selected during the detailed planning phase.

2.5.2 Remediation and Belowground Demolition – Site Characterization

Site characterization is the process by which soil contamination is identified. Site characterization would be conducted after the aboveground infrastructure is removed in a specific area and would involve drilling & testing core samples. Where testing results indicate no remediation is needed, non-impacted belowground infrastructure and surface hardscapes would be left in place, as earthwork in these areas would not occur unless necessary (e.g., to accommodate nearby remediation earthwork). No site restoration would occur in the areas where surface hardscape remains intact.

Subsurface site characterization testing would be done with conventional mechanical sampling equipment to identify areas of contamination. Additional testing would be performed in the area after initial remediation to ensure completion, possibly extending the remediation area as necessary and proceeding to ensure that required standards are met.

Groundwater remediation is not anticipated to be required, as discussed further below.

Subsurface site characterization would entail the following general sequence of activities. This sequence is not prescriptive. The actual need for, and scope of, these activities would be developed by Phillips 66 as it proceeds with characterizing environmental conditions at the site.

- Preparation of one or more Sampling and Analysis Plans (SAP). SAPs describe the field sampling methods and equipment; sampling locations; analytes to be laboratory tested; laboratory analytical methods, chain of custody requirements, and other sampling and testing protocols; and a reporting plan. SAPs also typically describe the purpose and objectives of site

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characterization investigation; and summarize previously obtained data and remaining data gaps.

- Mobilization of field equipment for sample data collection. Collection of samples below ground surface would be accomplished with conventional drilling equipment (e.g., truck-mounted or track-mounted drill rig for direct push boring, hand auguring, etc.). The appropriate method(s) will be determined on a case-by-case basis, selected based on sample location accessibility, sampling depth, ground surface (e.g., sand, concrete, asphalt, etc.), slope, and other factors.
- Laboratory analysis would be conducted for target analytes, with associated chain of custody documentation and reporting.
- Data would be analyzed and reported to document environmental conditions at the site and to support remediation decision making, if warranted.
- As field sampling and analyses are conducted the SAPs may be amended to support additional sampling or modified sampling methods.

The full extent of testing locations within the Refinery is unknown. In general, it is anticipated that site testing would be set up in a grid pattern across the extent of the site. The spacing of the grid is unknown at this time and would be based on accessibility and other factors. For example, grid spacing may be more concentrated within the operational areas of the Refinery where there is a higher potential for contamination based on the types of operations, such as at the tank farms (Areas 1 and 2) and the coker facility (Area 4).

After the site is tested, the identified contamination would be remediated as part of the Project. However, it is anticipated that a large portion of the site would require little or no soil remediation. The remediation plan described here is based on a combination of existing site characterization data and, where data gaps exist, utilization of assumptions intended to provide a conservatively high estimate of the likely volume of impacted soil. Based on the conceptual planning performed to date, site remediation would generate an estimated overall volume of 200,500 cubic yards of waste soil.

2.5.3 Remediation Objectives and Planning

This section describes conceptual remediation objectives and planning steps that would be followed prior to remediation.

2.5.3.1 Remediation Objectives

The site is zoned by San Luis Obispo County for industrial use; therefore, Phillips 66 plans to manage or divest the site as an industrial property. Accordingly, this Project Description assumes the site would be remediated to a level that meets applicable risk-based industrial standards as determined by the RWQCB.

The soil excavation estimates are based on data from previous site assessments and utilized RWQCB industrial worker environmental screening levels (ESL) to determine potential volumes. Environmental screening levels are conservative relative to site-specific risk-based cleanup goals that may be developed to support remedial action planning. If it is determined that a greater level

of activity is needed than anticipated in order to achieve the goals, then remedial actions would be adjusted accordingly, and additional regulatory review would be performed as warranted.

2.5.3.2 Remediation Planning

Remediation would entail assessment and characterization of site soil and excavation in areas of identified impacted soils, where needed, and stockpiling, loading, and hauling of impacted material for off-site disposal.

Soil volume estimates are partially based on past site assessment data collected from portions of the site. Phillips 66 indicated that conservative estimates were used, with the intent of producing conservative estimates of soil volumes. Phillips 66 would conduct a site characterization to further investigate and delineate areas that potentially require remediation, and soil volume estimates would be revised accordingly. If concentrations of the impacted material are above the level that presents an unacceptable risk to potential future industrial workers, then Phillips 66 would work with the proper oversight agency (i.e., RWQCB) to properly address the impacted area. Documentation (work plans, technical memorandums, reports, etc.) would be provided for agency review and approval, as appropriate.

As noted above, during initial site characterization, Phillips 66 anticipates using the RWQCB ESLs for commercial and industrial workers to initially screen site characterization data. If ESLs are exceeded, then Phillips 66 indicates that the appropriate oversight agencies would be consulted to determine how to address impacted soils. If needed, Phillips 66 would develop site-specific, risk-based cleanup levels, protective of future industrial workers, for use in risk management and remediation decision-making.

2.5.3.3 Remediation and Belowground Demolition Logistics

Belowground demolition would be limited to facilities that must be removed as part of the site remediation effort and would be based on the results of site characterization soil testing. Removed facilities may include excavation and removal of concrete building slabs, perimeter footings, pad footings, containment walls, pipe rack pedestals, equipment columns, and tank ring foundations, as well as asphalt surfaces from site paving and roads, underground utilities and piping (including potential regulated coating materials such as transite), and other belowground construction and demolition (C&D) debris. Where there is no need to remediate an area, the existing belowground infrastructure would remain.

Hardscapes (concrete, asphalt, compacted base/gravel, or asphalt emulsion coating) would remain in all areas, including areas within 100 feet of ESHA. The precise location and extent of hardscape to remain would be determined during detailed demolition planning and site characterization. The areas of existing hardscape to remain, including the hardscape to remain within 100 feet of ESHA, are shown in Appendix A, Preliminary Grading Plan Sheet 19A.

Any concrete and asphalt that is removed would be crushed on site and reused for backfill and for final contouring wherever feasible. Prior to crushing the material would be tested for suitability for on-site reuse. Criteria for suitability for reuse include:

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- Material that is free of hydrocarbon or other unsuitable constituents (e.g., metals that have been applied to or absorbed into the concrete), as determined by visual and olfactory inspection, and laboratory testing when appropriate; and
- Material that is of a suitable size after crushing.

If there is excess or impacted material that cannot be used as backfill, it may be recycled or disposed of off-site when necessary. Other demolition material would be sorted and processed for off-site disposal.

Remediation and associated belowground demolition would progress in a systematic manner from one major functional area to the next. The general functional areas are shown in Appendix A, Preliminary Grading Plan Sheet 3A; however, the actual work areas may differ depending on the remediation work plans at the time of mobilization. Within each functional area, belowground work steps would entail equipment mobilization, initial excavation and demolition, site sampling and analysis, preparation and approvals of remediation plans (as needed), and then further excavation and remediation (if needed), followed by backfill, compaction, and site stabilization. Demolition debris would be segregated, downsized, and processed, as needed, for off-site transportation or on-site reuse. Debris would be managed as it is generated to avoid unsafe work conditions, minimize storm water runoff, and promote good housekeeping. Project-specific HSE protection measures that would be implemented during belowground demolition and remediation are described in Section 2.7.

Impacted soils and any other impacted materials would be segregated from non-impacted materials. Clean soils would be segregated from waste materials and side-cast at the excavation site for backfilling, or the soil may be stockpiled for use as fill in another functional area. Excavations would have appropriate sloping and side wall controls to minimize the potential for uncontrolled collapse.

Remediation and associated belowground demolition would likely be completed in at least one area of the Refinery concurrently with aboveground demolition in other functional areas. In general, once the remediation and associated belowground demolition begins in a given area, the duration and sequencing of activity would be determined as the work progresses and would vary from one functional area to the next, depending on the extent of physical belowground infrastructure; the extent and timing of soil testing, assessments, and remediation planning; and the physical area and depth of soil that requires removal and backfill.

The timing, sequence, and duration of necessary soil remediation and associated belowground demolition would vary within each functional area depending on site conditions. Overall site remediation and associated belowground demolition would likely occur over multiple years and is expected to continue after completion of aboveground demolition. A substantial amount of the remediation and associated belowground demolition work would be completed in the first three years. If an area of belowground demolition work is not associated with remediation, then that work would also be completed in the first three years. Remediation and associated belowground demolition would likely continue, but at a substantially slower pace, over additional years (potentially up to 10 years), to finalize remediation depending on site conditions and work plans.

For permit planning and to identify the peak period of activity for impact assessment purposes, it was assumed that remediation and associated belowground demolition would occur in one area (e.g., Area 1, the Upper Tank Farm) concurrently with ongoing aboveground demolition in other areas, and that the remainder of site remediation and associated belowground demolition would be completed after completion of Refinery-wide aboveground demolition. Table 2.8 illustrates the monthly progression of activities during this period of overlapping activities in Year 1. (Note that remediation and associated belowground demolition would extend beyond Year 1.)

Table 2.8 Remediation and Belowground Demolition General Sequence and Associated Off-site Truck Haul Trips and Workforce Overlapped with Aboveground Demolition in Year 1

Site Activity	Month									
	1	2	3	4	5	6	7	8	9	10+ ^b
Mobilization and regulated material abatement/removal										
Aboveground demolition										
Remediation and associated belowground demolition ^{a, b}										
Reasonably Foreseeable Maximum weekly off-site truck haul trips ^c (Assumed Impacted Concrete, Asphalt, and Sewer Debris Truck Trips)	4	25 (1)	29 (1)	23 (1)	75 (7)	83 (4)	39 (4)	34	30	30
Reasonably Foreseeable Maximum daily on-site workforce	34	34	45	25	27	38	27	27	25	25

Notes:

- a. This planning scenario assumes that remediation and associated belowground demolition are initiated in one area of the Refinery (e.g., the aboveground storage tank farm) concurrent with aboveground demolition in other areas. The scenario also assumes that soil hauling begins in Month 5, at start of remediation and associated belowground demolition, with an estimated 38 rail cars per week, and 19 trucks per week. Excludes on-site hauling.
- b. Remediation and associated belowground demolition would continue through Year 1 and a substantial amount of the remediation and associated belowground demolition work would be completed in the first three years. Remediation and associated belowground demolition would likely continue beyond Year 3, but at a substantially slower pace.
- c. Excludes rail trips. Impacted soil, concrete, and asphalt, and other impacted debris, are intended to be hauled by rail. These estimates include a contingency scenario in which a portion of the impacted material would require truck transport. This contingency is also considered in the air quality emissions estimates.

Source: Phillips 66 Application 2023

Table 2.8 also indicates the anticipated maximum daily haul trips and commuter trips per month for the combined activities and, thus, represents a reasonable worst-case scenario for the purpose of estimating on-site equipment and personnel, and off-site hauling.

Pending site characterization and detailed work planning, the overall duration of activity may be longer than this scenario, but the intensity of on-site work is not expected to be greater than the scenario illustrated.

As presented above in Section 2.4.7, certain infrastructure would be left in place after aboveground demolition for use during the remediation and associated belowground demolition work. As

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presented in Section 2.5.15, certain facilities would remain in place after completion of remediation.

2.5.3.4 Remediation and Belowground Demolition Equipment

Remediation and associated belowground demolition would be accomplished using conventional excavation and demolition methods and equipment. Heavy equipment would include a combination of 100,000- to 150,000- or 180,000-pound capacity excavators, D8 dozer, a front-end loader or bobcat, a water truck, and off-road haul trucks to move materials from the excavation site to designated staging areas. Table 2.9 lists the anticipated quantity of each major equipment type by work activity.

A portable concrete crusher with an associated front-end loader would be staged on site to crush concrete for reuse on site, such as for backfill of impacted soil. A portable asphalt pulverizer would also be staged on site to break down the asphalt for reuse on site.

Table 2.9 Remediation and Belowground Demolition - Major Equipment by Work Activity

Activity	Equipment					
	100k-pound Excavator	150k- to 180k-pound Excavator	D8 Dozer, Front-end Loader or Bobcat	Off-Road Truck	Concrete Crusher Plant with Front-end Loader	Asphalt Pulverizer
Slabs, foundations, and site paving	2	2	1	1	1	0
Asphalt paved roads	1	0	1	1	0	1
Underground utilities	1	0	1	1	0	0
Soil excavation	2	2	3	2	0	0

Source: Phillips 66 Application 2023

The actual types and quantities of equipment used on any given day would vary based on work scheduled for that day. Table 2.9 lists heavy duty off-road equipment and off-road trucks that would be operating on site during belowground demolition and remediation. Additional smaller equipment and utility vehicles would also be on site during this period for various demolition and remediation activities. In addition, various delivery vehicles would be on site for relatively short periods of time, as needed, for loading and unloading cargo and general supplies.

2.5.4 Remediation and Belowground Demolition Schedule and Sequence

Remediation and associated belowground demolition work and off-site hauling would take place during daylight working hours, consistent with San Luis Obispo County Ordinance 23.06.042(d). This ordinance for Noise Standards exempts short-term Project excavations, provided such activities do not take place before 7:00 a.m. or after 9:00 p.m. any day except Saturday or Sunday, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday. Work activities would occur within the time limitations of this ordinance. After the remediation activity is completed, the Project site

would not generate sources of noise or generate new trips, except for occasional inspection and restoration maintenance trips.

2.5.5 Remediation and Belowground Demolition - Site Access and Staging

Site access and staging would be consistent with the aboveground demolition work described in Section 2.4. Asphalt paved areas and road surfaces would be retained or replaced for internal circulation after remediation work is completed.

2.5.6 Remediation and Belowground Demolition - Waste Management

Remediation and associated belowground demolition waste materials would be disposed of in accordance with applicable federal and California regulations. Anticipated waste types include concrete, asphalt, general construction and demolition mixed debris, regulated materials (e.g., asbestos) and waste soil. Table 2.10 provides the estimated types, weight, and volume of remediation and associated belowground demolition waste streams for the Project, and the estimated volume of imported backfill material. Table 2.11 shows the recycled waste materials generated.

Table 2.10 Remediation and Belowground Demolition Material, Volumes and Off-site Haul Loads

Material	Classification	Volume (Cubic Yards)	Weight (Tons)	Off-site Haul Truck or Rail Loads ^a
Impacted Concrete ^b	Regulated waste (not eligible for recycling/reuse)	2,075	4,150	An assumed 10% of facility-wide belowground concrete would be impacted and not suitable for reuse. This material would be hauled off site by rail (up to 21 rail trips). Up to 10% of the impacted material (208 cubic yards) would not be suitable for rail transport and would be hauled by truck (up to 21 truck trips).
Impacted Asphalt ^b	Regulated waste (not eligible for recycling/reuse)	1,875	3,750	An assumed 10% of facility-wide asphalt and not suitable for reuse. This material would be hauled off site by rail (up to 19 rail trips). Up to 10% of the impacted material (188 cubic yards) would not be suitable for rail transport and would be hauled by truck (up to 19 truck trips).
Impacted sewer trunk or other impacted debris ^b	Regulated waste (not eligible for recycling/reuse)	Mixed debris + 200	150	As assumed 50% of facility-wide sewer trunk lines or other impacted debris are removed as impacted material. This material would be hauled off site by rail (up to 2 rail trips). It is assumed 10% (20 cubic yards) would not be suitable for rail transport and would be hauled by truck (up to 2 truck trips).
Non-impacted belowground demolition debris ^b	Partially eligible for recycling	1,470	1,103	An assumed 50% of the remaining facility-wide belowground utilities are removed as clean belowground demolition debris. This material would

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Table 2.10 Remediation and Belowground Demolition Material, Volumes and Off-site Haul Loads

Material	Classification	Volume (Cubic Yards)	Weight (Tons)	Off-site Haul Truck or Rail Loads ^a
				be hauled by truck to an off-site recycler (up to 37 truck trips).
Impacted soil ^c	Regulated waste (not eligible for recycling/reuse)	200,500	300,750	Estimated facility-wide quantity of impacted soil. This material would be hauled off site by rail to a landfill (up to 2,005 rail trips). Up to 5% (10,025 cubic yards) would not be suitable for rail transport and would be hauled by truck (up to 1,003 truck trips).
Total waste generated		206,120	311,903	
Imported hardscape material ^d	Imported material	1,000	2,000	Estimated volume of imported hardscape material would be hauled on site by truck (up to 100 truck trips).
Total truckloads transported on or off site			137 – 1,181	
Total rail car loads transported off site			1,842 – 2,046	

Notes: ^a Excludes on-site material hauling. Peak day air quality emissions assume 37 off-site truck trips during the peak day for all combined materials.

^b This analysis assumes that 10% of the facility-wide concrete and asphalt, and up to 50% sewer trunk line would be removed due to impacted conditions and hauled off site by rail, and that up to 50% of the remaining underground utilities are removed as clean demolition debris and hauled off site by truck.

^c This analysis assumes that potentially 100% of impacted soil is transported by rail, or potentially up to 5% of impacted soil is transported by truck.

^d This analysis assumes that potentially 1,000 cubic yards of clean imported hardscape material would be delivered by truck. Peak quarter rail emissions for the combined waste materials assume 38 rail cars per week during weeks 4 through 13 of the peak quarter; this represents 3,800 cubic yards per week over 10 weeks (total of 38,000 CY; 19% of the estimated total Project soil disposal volume) during the latter two months of the peak quarter (Months 6 and 7). Peak quarter air quality truck emissions assume 190 soil hauling truck trips (19% of the estimated 1,000 total Project soil hauling truck trips) would occur during the peak quarter, in addition to an estimated approximately 430 other Project-related truck trips during this peak quarter period. The remaining soil hauling truck trips are assumed to occur after the peak quarter as remediation progresses.

C&D = construction and demolition

Source: Phillips 66 Application 2023

Table 2.11 Remediation and Belowground Demolition Material, Recycled Waste

Material	Volume (Cubic Yards)
Recyclable Waste breakdown	
Total waste generated eligible for recycling (consists of mixed debris available for sorting and recycling)	1,470
Total mixed debris recycled at 65% recovery rate	956
Total concrete and asphalt recycled	0
Total quantity of materials recycled	956
Percentage of materials generated to be recycled	65%

Source: Phillips 66 Application 2023

As noted above, the precise location and extent of hardscape to remain would be determined during site characterization. For Project planning and impact assessment purposes, this Project Description assumes that existing hardscape would be retained or replaced, except for a portion of hardscape that is assumed to be impacted and thus not suitable for on-site reuse. Under this assumption, remediation and associated belowground demolition would generate an estimated 2,075 cubic yards of impacted concrete waste (in addition to the estimated 2,200 cubic yards of concrete waste generated during aboveground demolition) and an estimated 1,875 cubic yards of impacted asphalt waste. For Project planning purposes, 100 percent of this material is assumed to be unsuitable for on-site reuse, therefore it is assumed to be hauled off site. Impacted concrete and asphalt would be hauled by rail. However, for planning purposes, it is also assumed that up to 10 percent of the waste concrete and asphalt would be transported by truck, resulting in up to 40 truck trips.

If any concrete and asphalt is suitable for on-site reuse, it would be downsized/crushed and reused on-site to the extent practical. A portable concrete crusher unit with a dedicated backhoe and an asphalt pulverizer would be staged at an existing Refinery staging area. Off-road heavy equipment trucks would transport reusable materials from the demolition sites to the crusher and pulverizer units.

Belowground demolition would generate an estimated volume of 200 cubic yards of impacted sewer trunk lines and other impacted mixed debris. These materials would be hauled by rail. However, for planning purposes, it is also assumed that up to 10 percent of these wastes would be transported by truck, resulting in an estimated two truck trips to off-site waste disposal facilities.

Belowground demolition would generate an estimated volume of 1,470 cubic yards of clean (non-impacted) belowground demolition debris, generally from removal of subsurface utilities and other incidental belowground materials encountered during remedial excavations. These materials would be hauled by truck to a regional sorting facility, resulting in an estimated 37 truck trips.

Excavated soil would be tested and handled in accordance with applicable procedures. Clean soil generated during excavation would be segregated and stockpiled for use as backfill. Impacted soil would be hauled to a centralized staging area near the rail spur. Remediation would generate an estimated volume of 200,500 cubic yards of waste soil. For Project planning purposes, 95 percent of this material is assumed to be suitable for transport by rail to an off-site landfill, and the remainder is assumed to be hauled by truck to a regional waste management facility, resulting in up to 1,003 truck trips over the life of the Project.

An estimated volume of up to 1,000 cubic yards of clean hardscape material may need to be imported to backfill excavations where the existing hardscape is removed as impacted material, resulting in up to 100 truck trips for imported material.

Pending further site characterization, vegetation disturbance within the fence line is anticipated to be limited to isolated locations throughout the Refinery as shown in Appendix A, Preliminary Grading Plan Sheet 16A and 17A. Areas of potential remediation disturbance comprise an estimated 177 acres facility-wide, of which approximately 150 acres are within existing hardscapes, and 27 acres are within vegetated areas. These areas are shown in Appendix A, Preliminary Grading Plan Sheet 16A and 17A.

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If remediation and associated ground disturbance is necessary outside the fence line, then the disturbance footprint would be minimized to the extent practical, and vegetation and soil that is disturbed during this work would be preserved and reused on site. The area of impact would be revegetated with an appropriate seed mix.

Actual quantities of materials to be transported off site would be documented with truck and weight tickets for each load.

Material transport would occur regularly throughout the remediation and associated belowground demolition activities. As presented in Table 2.8, the number of truck trips would range from 39 to 83 trips per week during a period of overlapping aboveground demolition and remediation. As noted above, remediation would continue after completion of aboveground demolition; however, once aboveground demolition is completed, the overall site activity and off-site hauling activity (i.e., continued remediation and associated belowground demolition) would be less intensive than during the estimated four-month period of overlapping activities shown in Table 2.8. Remediation and associated belowground demolition would continue through Year 1 and a substantial amount of the remediation work would be completed in the first three years. Remediation and associated belowground demolition would likely continue beyond Year 3, but at a substantially slower pace.

2.5.7 Remediation and Belowground Demolition Disposal Facilities

Table 2.12 lists the remediation and associated belowground demolition waste materials, estimated haul trips, and the primary disposal locations, as well as hauling distance and haul routes for the following waste materials:

- **Impacted Concrete.** An estimated volume of 2,065 cubic yards of impacted concrete would be identified for removal and hauled by truck to a regional facility. This volume represents 10 percent of the estimated facility-wide volume of concrete. For planning purposes, it is assumed that up to ten percent of this material would not be suitable for hauling by rail; this portion of the material would be hauled off site by truck to a regional waste management facility. Any concrete that is removed to accommodate soil remediation that is not impacted would be crushed and reused on site.
- **Impacted Asphalt.** An estimated volume of 1,875 cubic yards of impacted asphalt would be removed from the site and hauled by truck to a regional facility. This volume represents 10 percent of the estimated facility-wide volume of asphalt. For planning purposes, it is assumed that up to ten percent of this material would not be suitable for hauling by rail; this portion of the material would be hauled off site by truck to a regional waste management facility. Any asphalt that is removed to accommodate soil remediation that is not impacted would be crushed and reused on site.
- **Impacted Underground Sewer.** An estimated volume of 200 cubic yards of impacted sewer trunk would be identified for removal from the site and hauled by rail with the impacted soil. This volume represents 50 percent of the estimated facility-wide volume of sewer trunk lines. For planning purposes, it is assumed that up to ten percent of this material would not be suitable for hauling by rail; this portion of the material would be hauled off site by truck to a regional waste management facility.

- **Non-impacted Underground Utilities.** Belowground demolition will generate an estimated volume of 1,470 cubic yards of non-impacted subsurface utilities and other mixed debris, resulting in an estimated 37 truck trips to off-site waste disposal and recycling facilities.
- **Impacted soil.** An estimated volume of 200,500 cubic yards of impacted soil would be identified for removal and hauled from the site. Impacted soil would be hauled by rail to a waste facility in Utah consistent with historic practice. For planning purposes, it is assumed that up to five percent of impacted soil would not be suitable for hauling by rail; this material would be hauled off site by truck to a regional waste management facility.
- **Imported Hardscape Material.** An estimated volume of 1,000 cubic yards of imported hardscape material would be delivered to the site for use in backfilling the remedial excavations, resulting in an estimated 100 truck trips.

Clean soil, concrete, and asphalt that is removed to accommodate remediation would be reused on site as backfill and for final contouring.

Table 2.12 Remediation and Belowground Demolition Waste Hauling Destinations

Material	Truck and Rail Haul Trips ^a	Transportation Mode and Destination	One-way Off-site Truck Haul Distance ^b (Miles)	Transport Route
Impacted Concrete	Truck trips: 0–21 ^c	By rail to Republic Services ECDC Landfill, East Carbon City Utah By truck to Waste Management, 56533 Highway 58 West McKittrick, California 93251	Truck trips: 128.0	Rail: Union Pacific interstate rail Truck: via Willow Road to U.S. 101 north, SR 46/41 east, SR 33 south to 2nd Street
Impacted Asphalt	Truck trips: 0–19 ^c	By rail to Republic Services ECDC Landfill, East Carbon City Utah By truck to Waste Management, 56533 Highway 58 West McKittrick, California 93251	Truck trips: 128.0	Rail: Union Pacific interstate rail Truck: via Willow Road to U.S. 101 north, SR 46/41 east, SR 33 south to 2nd Street
Impacted Sewer Trunk	Truck trips: 0–2 ^c	By rail to Republic Services ECDC Landfill, East Carbon City Utah By truck to Waste Management, 56533 Highway 58 West McKittrick, California 93251	Truck trips: 128.0	Rail: Union Pacific interstate rail Truck: via Willow Road to U.S. 101 north, SR 46/41 east, SR 33 south to 2nd Street
Non-Impacted Belowground Utilities and other clean debris	Truck trips: 37	By truck to Santa Maria Transfer Station 325 Cuyama Lane Highway 166 Nipomo, California 93444	Truck trips: 11.4	Willow Road to U.S. 101 south to Cuyama Lane
Impacted Soil	Rail cars: 1,805–2,005	By rail to Republic Services ECDC Landfill, East Carbon City Utah	Truck trips: 128.0	Rail: Union Pacific interstate rail

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Table 2.12 Remediation and Belowground Demolition Waste Hauling Destinations

Material	Truck and Rail Haul Trips ^a	Transportation Mode and Destination	One-way Off-site Truck Haul Distance ^b (Miles)	Transport Route
	Truck trips: 0–1,003 ^d	By truck to Waste Management, 56533 Highway 58 West McKittrick, California 93251		Truck: via Willow Road to U.S. 101 north, SR 46/41 east, SR 33 south to 2nd Street
Imported Hardscape Material	Truck trips: 100	By truck from Gator Crushing and Recycling, 2363 Willow Road, Arroyo Grande, California 34201	Truck trips: 0.4	Willow Road facility exit to 2363 Willow Road, Arroyo Grande (adjacent to SMR)

Notes:

- This information is from Table 2.10.
- Haul distances are measured from the SMR entry/exit points at Willow Road. Excludes on-site hauling.
- Impacted concrete, asphalt, and sewer trunk would be hauled off site by train. For planning purposes, it is assumed that up to 10% of this impacted material would be hauled by truck to a regional waste management facility.
- Impacted soil would be hauled by train. For planning purposes, it is assumed that up to 5% of impacted soil would be hauled by truck to a regional waste management facility.

SMR = Santa Maria Refinery.

Source: Phillips 66 Application 2023

2.5.8 Remediation and Belowground Demolition Designated Haul Route

Consistent with the aboveground demolition activities, the belowground demolition and remediation equipment and material delivery vehicles and waste hauling trucks would use the existing designated haul route between the Refinery entry/exit and the Willow Road/U.S. 101 interchange, as described in Section 2.4.4.

2.5.9 Remediation and Belowground Demolition and Designated Truck Route

As presented in Table 2.8, an estimated maximum of 83 haul truck trips per week would occur during a period of combined aboveground and belowground demolition and remediation; under this scenario, peak activity would occur during Month 6. This estimate is conservatively high because it assumes a portion of impacted soil would be hauled by truck (versus by rail), and a percentage of impacted concrete and asphalt would be hauled by truck (versus reused on site) during this period of overlapping demolition and remediation. In the event a greater volume of these materials must be hauled by truck, there would be additional trips. In this case, overall truck trips would be managed to remain under the baseline of 37 trucks per day.

2.5.10 Remediation and Belowground Demolition Water Supply and Demand

Water use would increase during belowground demolition and remediation work as the area of ground disturbance and vehicle tracking increases. This work would include two on-site water trucks of 2,000-gallon capacity. A conservative estimate for water during this period is 6,000 to 8,000 gallons per day, primarily for dust control. This volume is adequate to cover one acre per

day of actively working area. Assuming one acre of active working areas, and assuming 180 days of work at a typical rate of 7,000 gallons per day, the water demand for remediation would be approximately 1,260,000 gallons per year (3.9 acre-feet per year).

2.5.11 Workforce Commutes During Remediation and Belowground Demolition

As presented in Table 2.8, an estimated maximum of 38 workers would be on-site during a period of combined aboveground and belowground demolition and remediation. Remediation work crews would commute to the site from throughout the region, depending on the selection of contractors at the time of the work.

2.5.12 Post-Remediation Grading Contouring, and Restoration Approach

Existing vegetation that has been designated as ESHA would remain intact unless an area needs to be disturbed to accomplish subsurface remediation. In these cases, the disturbed area would be backfilled with available site material (including segregated clean native material) and the surface would be revegetated with an appropriate seed mix.

At completion of remediation and associated belowground demolition in a given area, the work site would be backfilled to the pre-excavation contour. The disturbed site would be backfilled with clean soil from a borrow site within the Coke Storage Area (Area 6 of Figure 2-3) and other available material such as aggregate from crushed concrete or asphalt. No site restoration/revegetation would occur in these areas unless there were previously some ESHA in the location.

Hardscape is defined as concrete, asphalt, compacted base/gravel, or asphalt emulsion coating covering banks and berms. Existing hardscapes are shown in Figure 2-5 and in Appendix A, Preliminary Grading Plan Sheet 4A. No new areas would be hardscaped. Existing hardscapes would remain intact unless an area needs to be disturbed to accomplish subsurface demolition or remediation. In these situations, the disturbed sites would be backfilled with available material such as aggregate from crushed concrete or asphalt. The disturbed site would be returned to the original contour (except for the coke storage borrow area in Area 3). The surface may be 're-hardened' with aggregate, concrete slurry, emulsion, or comparable methods, to stabilize the site and preserve the pre-existing hardscape surface area and contour. The areas of existing hardscape to remain are shown in Figure 2-11 and Appendix A, Preliminary Grading Plan Sheet 19A.

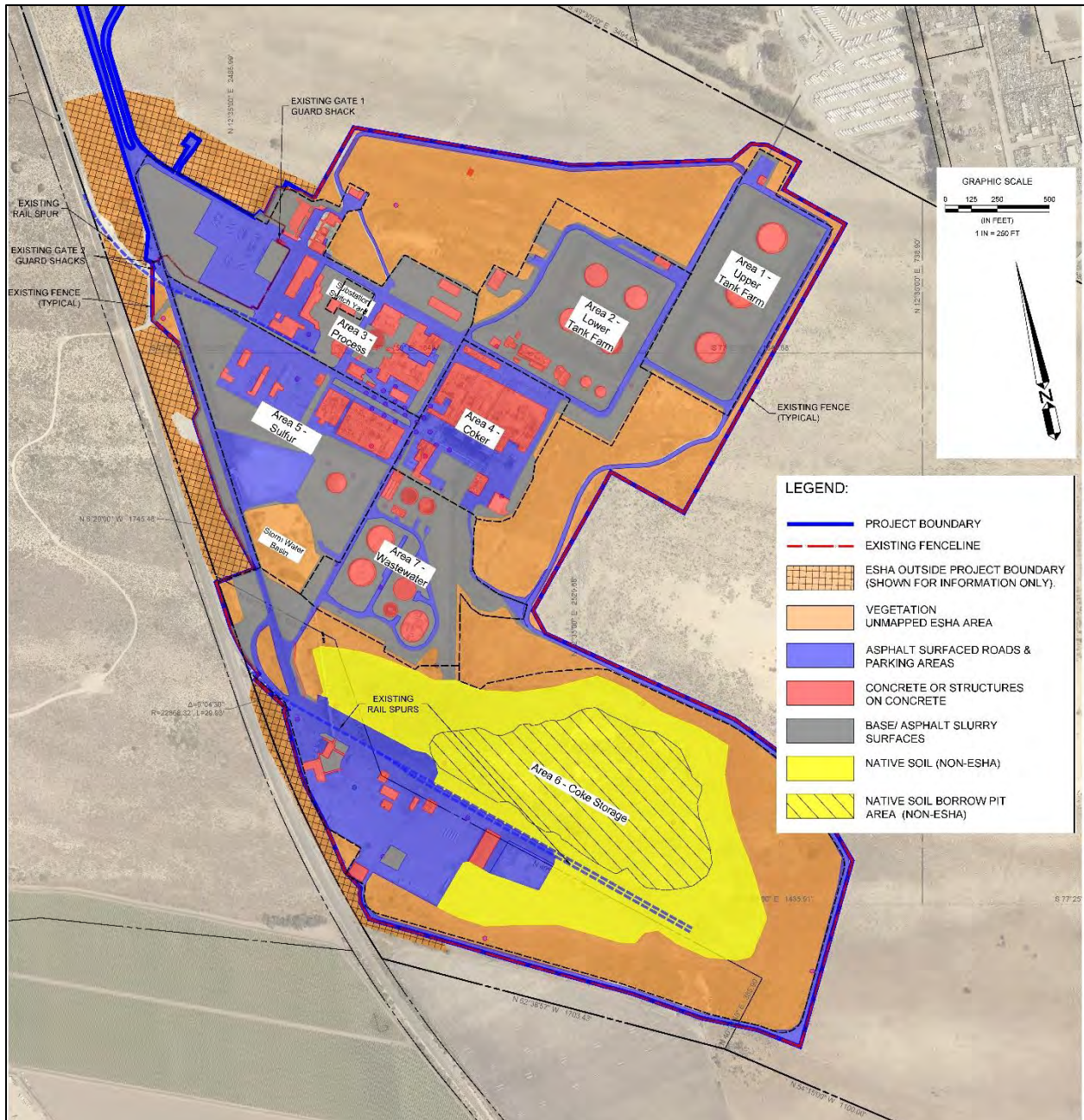
Pending site characterization, the specific areas and volumes of hardscape disturbance and potential re-hardening of those areas are not defined. Disturbance and re-hardening could potentially occur anywhere on existing hardscape. The volume of re-hardening material would depend on the surface area of disturbance and thickness of the required hardening material.

Where existing hardscape is removed as impacted material, an estimated volume of up to 1,000 cubic yards of clean hardscape material may need to be imported. This material would supplement existing site backfill material with sufficient volume to restore the removed hardscape.

In general, all disturbance areas would be stabilized in order to reduce the potential for fugitive dust. Areas that are not replaced with hardscape will be revegetated; the appropriate plant palettes and seed mixes would be selected during the detailed planning phase.

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Figure 2-11 Post-Remediation Plan



Note: Native soil areas and native soil borrow pit area would be revegetated.

Source: Phillips 66 Application 2023

Coke Storage Area Restoration. The existing coke pile and vegetated areas within Area 6 (generally located north of the rail spur as shown on Preliminary Grading Plan Sheet 4A), including the soil borrow area, would be revegetated. These earthen areas could be used for replacement of ESHA that is disturbed by the overall Project activities. The hardscape areas within Area 6 (generally west of the rail spur), would remain as hardscape.

Refinery area types would be the same as the existing area types except that the coke pile area would be used as a borrow site and then would be revegetated with native soil, thereby increasing the amount of vegetated areas from 31 percent for the existing site to 49 percent of the site after the Project has been completed.

2.5.13 Earthwork Calculations

The estimated cumulative totals of earthwork to establish the anticipated total volume of earth moved on or off the site for the proposed Project are listed in Table 2.13 and in Appendix A, Preliminary Grading Plan Sheet 1A. The Project would require an estimated 615,160 cubic yards of earthwork and non-earth fill.

Table 2.13 Project Cut and Fill

Description	Volume CY – Soil only	Volume, CY
Cut		
Remediation Soil (exported)	200,500	200,500
Native Soil cut from Area 6	200,500	200,500
Native Soil Recontouring cut	2,420	2,420
<i>Subtotal - Soil Cut Only</i>	403,420	-
Miscellaneous concrete/asphalt export (not soil)	-	5,620
Total Cut – all materials (Soil + Concrete/Asphalt)	-	409,040
Fill		
Native Soil from Area 6	200,500	200,500
Native Soil Recontouring fill	2,420	2,420
<i>Subtotal - Soil Fill Only</i>	202,920	-
Miscellaneous concrete/asphalt export (not soil)	-	3,200
Total Fill – All Materials (Soil + Concrete/Asphalt)	-	206,120
Total Soil - Cut and Fill Grading	606,340	-
Total Cut and Fill – All Materials	-	615,160

Source: Phillips 66 Application 2023

2.5.14 Requests for Permit Adjustments

Various Project features require adjustments or variances associated with the CZLUO. These are discussed below.

Grading Adjustment per CZLUO 23.05.034.b

SLO County CZLUO 23.05.034.b.3 allows a Request for Adjustment for areas where grading would occur on existing 20%+ slopes. Pending site characterization, the Project may require remediation excavation and finish grading in areas exceeding 20% slopes. Assuming that grading would occur in certain areas between 20% and 30% slopes, Phillips 66 herein requests an Adjustment to in accordance with SLO County CZLUO Section 23.05.034.

Grading Variance for Slopes >30% per CZLUO 23.01.045

SLO County CZLUO 23.01.045 allows a Grading Variance for areas where grading would occur on existing 30%+ slopes. Pending site characterization, the Project may require remediation excavation and finish grading in areas exceeding 30% slopes. Assuming that grading would occur

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in certain areas with slope >30%, Phillips 66 herein requests a Variance for these areas in accordance with CZLUO 23.01.045.

ESHA Setback Adjustment per CZLUO 23.05.034.c

SLO County CZLUO Section 23.05.034.c requires a 100-foot setback from ESHA and allows a Request for Adjustment to Setbacks to be considered, with findings for approval. The Preliminary Grading Plan indicates that grading may need to occur within this setback (Appendix A, Preliminary Grading Plan Sheets 16A and 17A). Therefore, Phillips 66 herein requests an Adjustment to ESHA Setbacks in accordance with SLO County CZLUO Section 23.07.172 and/or 23.07.174. The extent of encroachment into the 100-foot setback based on site constraints would be determined in the CEQA process.

2.5.15 Post-Remediation Condition

Phillips 66' objective for the post-remediation condition of the site is to remove the Refinery infrastructure with the exception of hardscapes, non-impacted subsurface structures, and certain other infrastructure that are necessary for site security (e.g., perimeter fencing, lighting, and maintenance roads) or for ongoing remediation and restoration (e.g., water production wells, groundwater monitoring wells, Slop Oil Line remediation project); or infrastructure that may be of value to future users.

The following facilities would remain after remediation:

- Hardscapes (concrete, asphalt, compacted base/gravel, or asphalt emulsion coating) (facility-wide);
- Perimeter security fencing and solar-powered perimeter lighting (facility-wide);
- Guard shacks (Area 3);
- Rail spurs (Areas 3, 5, and 6);
- Truck scale (west of Area 5);
- Berms (Areas 1 and 2, and facility-wide);
- Buried pipelines (facility-wide);
- Equipment and structural foundations, generally below six inches above grade level;
- Groundwater production wells #2, #4, #5 and #6 (used for potable water, fire water, and industrial water at the Refinery) (Areas 2, 3, 5, and 6);
- Groundwater monitoring wells (facility-wide);
- Phillips 66-controlled electrical substation and PG&E power line to the substation and telecommunication line (within Area 3);
- Non-contact storm drain system and conveyance to Stormwater Basin (Evaporation Pond) (conveyances are facility-wide, Stormwater Basin is in Area 5);
- Wastewater outfall line (Area 7).

- Slop Oil Line Release remediation system components (remediation is in progress under separate permit) (Area 3);
- Natural gas line (8-inch), crude line (10-inch) and a product line (8-inch) (three lines total); these lines would remain in place from the pig receiver/launcher to the property line and be blinded from the Refinery (Area 1);
- An idle natural gas line (6-inch) would remain in place from the pig receiver/launcher to the property line (Area 1);
- Pig receivers/launcher at north boundary for maintenance of off-site pipelines (Area 1);
- Other non-impacted subsurface structures such as foundations, footings, and stormwater conduit (facility-wide), and;
- Belowground pipelines (former 8-inch gas fuel line, 8-inch oil line, and 4-inch diluent line) in an approximately 1,200-foot segment extending southwesterly from within the Refinery fence line near the wastewater treatment plant to the Phillips 66 property line. The lines would remain “as is” in their current condition (Area 6 and outside the fence line west of Area 6).

These facilities are shown in Figure 2-12 and in Appendix A, Preliminary Grading Plan Sheet 9A. Future land uses are speculative and thus the potential future use or removal of the remaining infrastructure is not a part of Phillip 66’ CDP application.

Future users would elect to either retain, modify, or remove the remaining facilities, and such future use decisions would be addressed by the future user(s) under separate future permitting efforts. In general, areas located beyond 100 feet of the County-designated ESHA may be left in place for potential future development. The finished condition within these areas would be a combination of existing paved roads, other hardscape, and areas revegetated after ground disturbance.

Phillips 66 indicates that demolition and removal of the remaining structures would be relatively minor activities compared to the currently proposed demolition and remediation activity, and if proposed in the future would be conducted under appropriate review and permitting.

The post remediation grading plan is shown in Appendix A, Preliminary Grading Plan Sheet 10A.

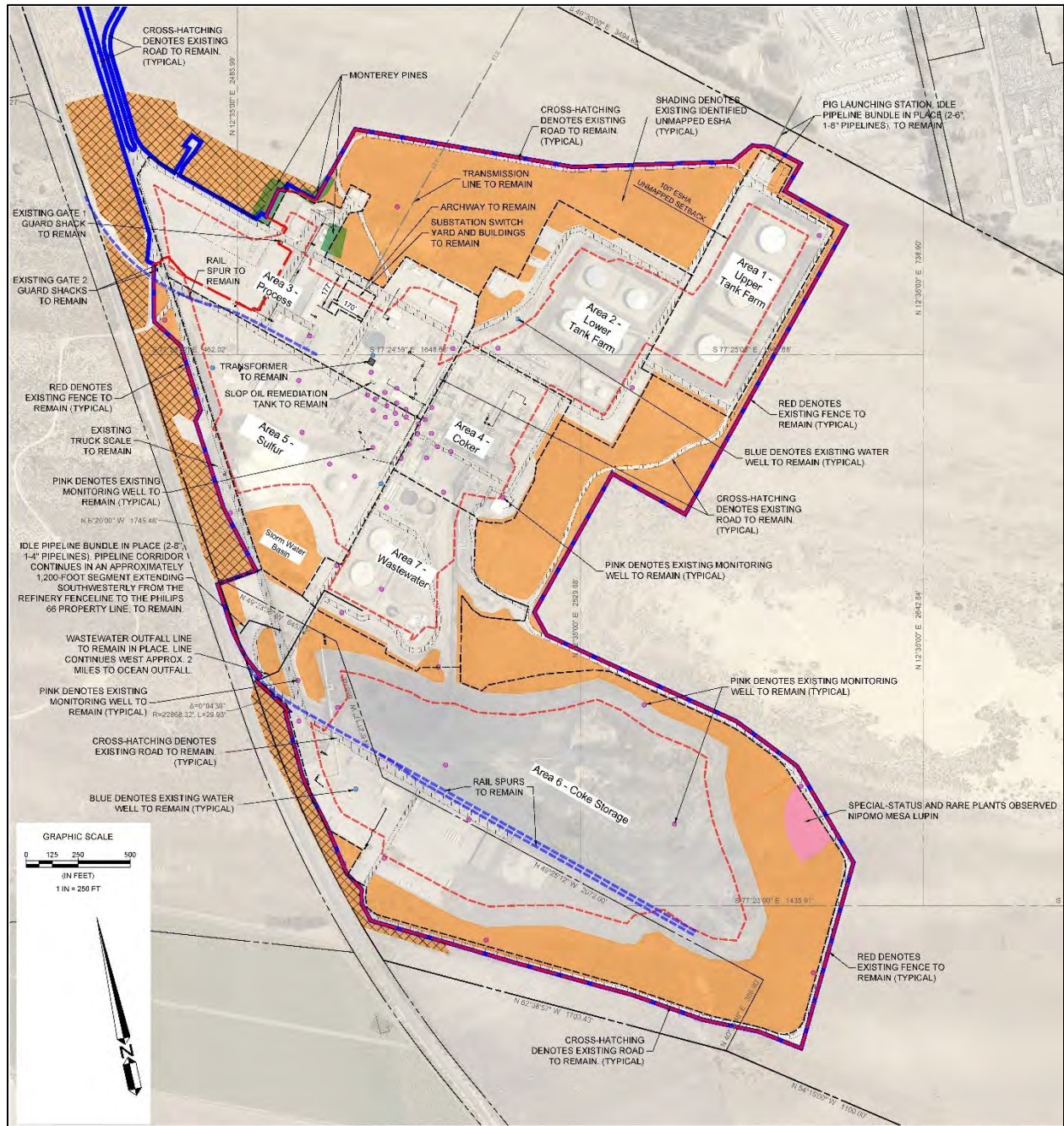
2.6 Project Activities: Site Stabilization and Restoration

Disturbance areas would be stabilized in order to reduce the potential for fugitive dust. Existing hardscape would be replaced with hardscape, as described under Section 2.5. The precise locations and extent of hardscape to be removed or replaced will be determined during detailed demolition planning and site characterization, and the remaining hardscape will remain in place. The final contour will be unchanged; therefore, no new hardscape areas are anticipated.

Where vegetation is impacted, including the coke storage borrow area, the area would be restored with appropriate soil stabilizers, plant palettes and seed mixes that would be selected during the detailed planning phase.

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Figure 2-12 Facilities to Remain



Source: Phillips 66 Application 2023

Estimated areas of ESHA that could be affected total 26.5 acres in a range of locations throughout the site (see Preliminary Grading Plan Sheet 16A and 17A). As noted in Section 2.5.14, the existing coke pile and vegetated areas within Area 6 (generally located north of the rail spur as shown on Preliminary Grading Plan Sheet 4A), including the soil borrow area, could be used for replacement of ESHA that is disturbed by the overall Project activities. Hardscaped areas within Area 6 will be retained as hardscape.

Existing vegetation includes a variety of native dune and chaparral species, as well as ruderal non-native species. The most prevalent native species present included silver dune lupine (*Lupinus chamissonis*), dune-heather (*Ericameria ericoides*), and coyote brush (*Baccharis pilularis*), which are part of the silver dune lupine–mock heather scrub global and state vulnerable vegetation alliance. Non-native plant species include veldt grass (*Ehrharta calycina*), iceplant (*Carpobrotus* spp.), and pampas grass (*Cortaderia selloana*).

The site's non-hydric dune land soils are prone to becoming airborne during high wind events; therefore, a goal of the restoration program is to stabilize exposed areas as soon as practical after ground disturbance. Site restoration would be implemented directly after completion of demolition and remediation within the SMR demolition and remediation work areas. This area-by-area approach would ensure that the exposed areas are stabilized and revegetated in a timely manner. Once the vegetation provides sufficient ground cover, it would provide effective long-term dust control.

Based on these site conditions, the restoration objectives for vegetated areas that are impacted during demolition and remediation include:

- Site stabilization and revegetation that achieves effective long-term dust control and minimizes potential erosion and sedimentation; and
- Establishment of plant cover that is compatible with surrounding areas of native vegetation using local genetic sources of seed or cuttings for native plant material to the extent practicable.

Site Preparation. Site preparation would include topsoil segregation and storage, finish grading, surface scarification, and other specifications. The preliminary grading plan finish grade contour discussed above would provide basins to retain stormwater within the work sub-areas and within the overall Project site consistent with current drainage patterns. These depressions in the landscape would also promote plant establishment by providing areas suitable for seed germination.

Certain infrastructure would be retained for use during restoration, including most of the internal road network, perimeter fencing and gates, electrical power distribution, water production wells, and a water storage tank.

Phillips 66 indicates that grading disturbance would be limited to the extent practicable. Existing vegetation that does not require ground disturbance would be protected by installing temporary barriers such as fences to restrict access to vegetated areas. Signs would be installed to delineate revegetation areas. Temporary fencing and signage would be left in place until vegetation becomes established.

Standard construction Stormwater Pollution Prevention Plan (SWPPP) best management practices (BMPs) would be implemented for sediment and erosion control during site demolition and site grading. Applicable BMPs may include surface roughening, mulching, and installation of silt fences and straw bale barriers to reduce erosion and sedimentation rates during vegetation establishment. Sediment control structures would be inspected and maintained until vegetation becomes adequately established.

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If clearing of previously undisturbed areas is required, topsoil would be removed and stockpiled as part of surface clearing activities. General guidelines would be followed when stockpiling soils:

- The height of soil stockpiles would be limited to the extent possible to minimize compaction and to maintain the integrity of soils; and
- Soil material would not be handled when it is too wet or too dry. Generally, soil is best handled when barely moist, but not damp or wet.

Soil Amendments and Topsoil Import. Currently, the need to import topsoil or to amend the existing sandy soil through the application of fertilizer is not anticipated. The use of native seed mixes would limit the need for soil amendments.

Stockpiled soils would be redistributed as part of reclamation activities where available.

Where excavation occurs on existing hardscape areas and where roads are to be removed, compacted soils would be scarified to remove compaction and regraded to blend in with the local topography, limit erosion, and promote natural drainage.

Where excavation occurs on existing vegetated areas, minor scarification, regrading, and revegetation would be required to return existing open areas to their natural topography and to provide proper drainage.

Revegetation Method. Revegetation would be installed primarily by hydroseeding. Hydroseeding may be supplemented by broadcast seeding of sensitive annual species. Container plantings would be installed where appropriate. Leguminous species included in the seed mix that require pretreatment in order to germinate would be provided with that pretreatment. Because of the scale of the planting area, and in consultation with the hydroseed contractor, hydroseeding may need to be applied in a two-pass process to improve seed/soil contact and to protect seed from bird predation.

Plant Palette and Seed Mix. A plant palette and seed mix would be selected during the detailed planning phase. The seed mix may vary within portions of the site based on current and post-demolition conditions. In general, vegetated areas within 100 feet of County-designated ESHA that are disturbed by Project activities will be stabilized for dust control and erosion control. Stabilization in these areas may include use of a seed mix that compares to the native vegetation characteristic of the site and surrounding vegetation communities.

The seed mix (bulk pounds/acre) would take into consideration species availability, purity rates, germination rates, and other factors. In general, seed mixes would be developed that have species mixes similar to adjacent reference areas. However, the species composition used on previously vegetated areas may be different than the seed mix applied to previous hardscape areas. Local genetic sources of native plant materials would be used to the extent practicable to avoid genetic contamination of local plant populations.

Soil Stabilization. Hydromulch would be used to reduce erosion potential and foster vegetation establishment on newly seeded areas. Mulch is primarily used for moisture conservation and soil stabilization. Care would be taken when using mulch because it may contain weed seeds. Only

weed-free and seed-free would be used. Mycorrhizae would be added to the hydroseed mixture to facilitate establishment of vegetation. Rice straw plugs may be installed at random intervals to provide microsite shelter for seeds or seedlings, serve as water catchment for condensation, and to reduce wind scouring.

Planting Schedule. A planting schedule would be developed as part of the detailed Revegetation Plan. In general, reseeding and planting would occur during the first fall, and prior to the rainy season, following the completion of ground disturbance within a work area. Similarly, container plants would be installed in October and November. Seed and mycorrhizae would be applied via hydroseeding immediately following container plant installation, but not later than November.

Irrigation. Irrigation would be performed during the initial planting phase and likely continue outside of the rainy season. In general, the primary method of irrigation would be by water truck with use of on-site well water. Other logistics would include on-site storage and pumping equipment, as needed.

Water volumes and application rates would be designed to provide an adequate supply of moisture to the entire root zone of each plant during the normal growth period of the plant. Irrigation for plantings would be supplied as infrequent, deep waterings, as determined by the restoration manager. Water would be applied in a manner that avoids erosion, damage to plants, runoff, or damage to existing or colonizing vegetation.

Weed Abatement. Noxious weeds would be treated using the appropriate physical, chemical, or biological methods. Weed treatment areas would be marked in the field prior to weed treatment. Weed abatement, removal, and treatments would focus on CAL-IPC high risk/high priority noxious weeds that are known to be present in the area. These include veldt grass, pampas grass, and various other weedy species (primarily herbaceous or non-native annual grass species). Potentially applicable treatment methods would include mechanical control and chemical control with appropriate herbicides. Appropriate guidelines would be established for the treatment methods to avoid affecting native species (e.g., through overspray).

Monitoring and Repair. Restoration areas would be monitored to evaluate vegetation establishment, erosion and sediment control, and noxious weed establishment. Specific monitoring criteria would include:

- Exotic species management;
- Inventory of the flora;
- Percent of bare ground (annual quantitative monitoring);
- Percent vegetative cover (annual quantitative monitoring);
- Plant density (annual quantitative monitoring);
- Plant health (qualitative);
- Plant size (qualitative);
- Evidence of erosion or burying of plants;
- Evidence of wildlife usage; and
- Hydrology (qualitative).

If on-site conditions fail to meet performance targets, then corrective steps would be implemented.

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Reseeded areas would be observed at more frequent intervals during the first two growing seasons to determine seedling survival and overall revegetation success, and then less frequently after the initial establishment objectives are achieved.

Areas of excessive erosion or sedimentation and the establishment of noxious weeds would be monitored. Areas with poor vegetation establishment or areas exhibiting excessive erosion or sedimentation would be repaired and stabilized.

Monitoring Schedule. The anticipated timeline to meet stormwater, dust control, and revegetation criteria is three years from the time of seeding. However, depending on seasonal precipitation and given the site's relatively arid environment, a five-year planning period is anticipated to be required for restoration maintenance. Monitoring and maintenance would likely consist of six (6) monthly site visits for the first six months, three (3) bi-monthly site visits in the latter six months, and four (4) quarterly site visits in Years 2 through 5. The restoration contractor would ensure that plantings, weeding, and erosion control performance standards are met through maintenance activities during the maintenance period. These activities include weed eradication; reseeding, if needed; supplemental irrigation, if needed; repairs and maintenance of erosion control materials and other materials, if needed; general site housekeeping and cleanup; and the general care and nurturing of seedlings, cuttings, and native plants within the restoration areas. Additional monthly watering during the first year would be conducted if necessary.

Adaptive Management and Contingency Measures. An adaptive management approach would be implemented during site restoration. If regional issues negatively affect restoration success that cannot be feasibly controlled by the restoration team, or if other unforeseen problems result in significant deviations from performance targets, then Phillips 66 would consult with agencies having regulatory oversight to discuss contingency measures.

Various factors could have a negative influence on restoration success. The restoration plan would include contingency measures for situations that are common for restoration projects and address these issues should they arise. Potential contingencies include:

- **Predation by Animals (Gophers/Ground Squirrels/Rabbits/Deer):** No protection of the restoration area is currently planned to prevent predation by gophers, ground squirrels, rabbits, deer, or other herbivores. If animal damage becomes a significant problem, an active control program may be developed;
- **Predation by Insects:** No protection of restoration areas is currently planned from predation by insects. If insect damage becomes a significant problem, an active treatment program may be developed;
- **Weeds:** If continued weed infestation occurs and/or new weed species invade the restoration area, then the frequency and type of weed maintenance would be increased or modified. Weed problems would be addressed through removal and or treatment of weeds depending on the species and the location; and
- **Erosion:** If targets set for erosion in the restoration area are not met, the eroded areas would be repaired and re-seeded as necessary. Erosion control measures may include installation of erosion control blankets, wattles, straw bales, or other measures.

Success Criteria and Performance Standards. The general goals of the restoration plan are to provide functional habitat value for native plants within the restoration area, with weed constituents lower than current levels, and to provide effective site stabilization for erosion control and dust control. Phillips 66 indicates they would work with San Luis Obispo County to establish quantitative and qualitative performance criteria that take into consideration existing site conditions including the area of existing Refinery infrastructure. Specific criteria may be different for the formerly vegetated areas versus the former hardscape areas.

Cover data of native and non-native species would be collected prior to the start of restoration. An incremental increase in native cover and an incremental decrease in non-native cover would be determined and used for evaluation each year.

Performance would be measured during the monitoring period to document progress towards the final standards. Annual performance results that fall below the established targets would result in an assessment of causative factors and potential remedial solutions. Activities necessary to achieve the performance standards may include additional seeding or plant protection, increased weed control, erosion control efforts, or other contingency measures.

Invasive species would be controlled during the performance period. However, non-native species such as veldt grass have naturalized extensively in local dune communities and cannot be entirely eradicated due to adjacent seed sources. If an increase in native cover is not achieved, then the performance standards may be adjusted, and/or adaptive management practices would be utilized such as additional supplemental seeding or non-native removal.

Reporting. Monitoring would address the progress of the Project and the various categories of established success criteria. Regular monitoring of site recovery and weed conditions would occur at least every six months during initial restoration efforts. Deficiencies would be noted and remedial actions including supplemental irrigation, weed abatement, or reseeded/planting may be recommended as necessary.

Reporting would occur at different stages:

- During site preparation, weed control efforts, and other initial phases;
- During seeding;
- After seeding and weed control treatments;
- Annual reporting; and
- Final report.

Photographs would be taken from established photo-points during each phase of the Project and annually in spring. Photograph locations would be noted on site plans provided with the report. At the end of the first restoration season, a report would be prepared to document all activities accomplished during the year. Subsequent annual reports would summarize monitoring data collected each succeeding year and compare results against the performance criteria to evaluate restoration success. The annual reports would include recommended maintenance activities and corrective measures, if needed, and specify when such measures would be implemented.

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Restoration Phase Stormwater and Erosion Control. Construction SWPPP BMPs would be maintained, as appropriate, through site stabilization and restoration. Final site contouring would be configured such that site drainage continues to be retained on site, with no off-site runoff. The preliminary grading plan final site contour is configured to retain post-construction site drainage on site and to convey on-site flows in a non-erosive manner that prevents potential off-site stormwater impacts. The drainage plan is designed to protect surrounding habitat resources by minimizing impervious surfaces and promoting on-site infiltration and management of stormwater runoff through developing a network of drainage swales (or similar) strategically located within the site and designed to retain and treat stormwater flows.

Restoration planning would include an analysis of site hydrology, and the post-grading drainage plan and monitoring program would be designed to support successful restoration. Where appropriate, existing stormwater management features, such as basins, would be recontoured and connected to the newly graded site.

Stormwater management techniques would be designed to control stormwater flow rates and erosion using accepted methods of hydrologic and hydraulic analysis. Stormwater management features that support restoration of the site would include revegetation, vegetated swales, and basins.

Natural rock riprap or turf reinforced mats may be placed along channels and slopes as reinforcement and biodegradable fiber rolls or wattles may be placed on slopes during initial site preparation and after hydroseeding to spread runoff as sheet flow during the plant establishment period. Use of these features would be minimized as much as feasible to maintain natural conditions but may be necessary for erosion and sediment control. Silt fences and/or straw bale barriers may be required to contain sediments in rapidly eroding areas.

The Construction SWPPP would include an Operation, Monitoring, and Maintenance [OM&M] Plan to monitor and maintain BMP effectiveness. The OM&M Plan would consist of monitoring by a Qualified Storm Water Practitioner (QSP), or trained delegate, until the Notice of Termination for coverage under the Construction General Permit (CGP) is accepted (i.e., when the CGP parameters for site stabilization are achieved).

The OM&M Plan would describe the expected types and frequency of maintenance activities that would be implemented to ensure that stormwater features effectively convey stormwater runoff throughout the site. Maintenance activities may include, but are not limited to, removal of sediment from conveyance swales, repair of riprap, maintenance of fiber rolls, and maintenance of the perimeter security fence. Natural stormwater management features would be selected for final implementation to the extent practicable. Maintenance of the features should not be required after the site vegetation is fully established.

Restoration Phase Dust Control. Fugitive dust measures for each phase of the Project, including the restoration installation and performance period, would be listed in a Dust Control Plan as part of the mitigation compliance program, as appropriate. A major objective of the restoration plan is to stabilize and manage the post-demolition site so as to minimize the potential for windborne dust during the restoration installation and plant establishment period. As site remediation progresses from one major functional area to the next, remediation would be followed by backfill,

compaction, and site stabilization and restoration. This area-by-area approach would ensure that the exposed areas are stabilized as soon as practical in order to minimize fugitive dust. Once the vegetation is established it would function as effective dust prevention.

Dust control measures for restoration (e.g., watering, use of tackifiers, covering stockpiles, etc.) would be implemented during the installation phase and during the performance period, and may include the following measures:

- Water trucks or sprinkler systems would be used in sufficient quantities to prevent airborne dust from leaving the site;
- Exposed ground subject to revegetation would be stabilized prior to plant establishment such as by using approved chemical soil binders, jute netting, or other appropriate methods; and
- Maintenance of the perimeter security fence and internal driving areas to prevent unauthorized vehicle entry into restoration areas.

The restoration effort would incorporate plan elements as appropriate, including plant selections and seeding program that are similar to restoration efforts within portions of the nearby Oceano Dunes State Vehicular Recreation Area (ODSVRA). The California Department of Parks and Recreation Off-Highway Motor Vehicle Recreation Division manages the ODSVRA Dust Control Program. This program implements dust control measures for the ODSVRA, including the backdune areas west and northwest (generally upwind) of the Refinery. Dust-related measures would also be coordinated with the SLOCAPCD.

As part of an overall adaptive management strategy for long-term dust control, Phillips 66 would leverage lessons learned from revegetation and dust control measures implemented within comparable backdune restoration areas in the ODSVRA. As the Refinery restoration plan is more fully developed, and throughout the performance period, certain measures from the ODSVRA Dust Control Program may inform the restoration and dust control measures to be employed at the Refinery. For example, the following measures evaluated for the ODSVRA may warrant consideration for inclusion in the restoration plan:

- Planting native vegetation during the fall, when rains support the establishment of native dune vegetation;
- Deploying seasonal dust control measures from approximately March to September such as wind fencing, straw bales, porous roughness elements (PREs), and, potentially, non-toxic, environmentally friendly soil stabilizers to control and minimize dust on a seasonal basis;
- Deploying seasonal sand fencing to control natural sand drift;
- Preventing track-out onto public roads;
- Potentially planting native, fast growing trees on lands located downwind of the Refinery for the long-term dust control; and
- Potentially other measures as new control measures are identified by the OHMVR Division for implementation at ODSVRA.

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Refinery-specific measures may be implemented to align with these measures to the extent they are demonstrated to provide effective dust control in comparable settings.

Additional details of the ODSVRA Dust Control Program are provided in the 2nd Draft Annual Report and Work Plan, dated September 14, 2022, available at:

https://storage.googleapis.com/slocleanair-org/images/cms/upload/files/2ndDraft2022ARWP_2022914.pdf

Air quality monitoring stations closest to the SMR include the Mesa2 and California Department of Forestry (CDF [CAL FIRE/County Fire]) stations. Both stations are located within one mile of the Refinery. The Mesa2 station monitors particulate matter less than 10 microns (PM₁₀) and particulate matter less than 2.5 microns (PM_{2.5}), and the CDF (Arroyo Grande) station monitors PM₁₀ and PM_{2.5}, as well as sulfur dioxide. The Nipomo Regional Park station, approximately five miles east of the Refinery, measures ozone (O₃) and PM₁₀. These stations are anticipated to remain operational during the site restoration performance period, and data from these stations would be used to monitor dust levels and dust control measure effectiveness.

Restoration and dust control planning would also leverage lessons learned from other restoration efforts in the area, as well as other guidance materials developed during the CEQA process.

Water Use. Restoration activities would require water for irrigation. Irrigation water would likely be applied to active restoration areas by water trucks in a similar manner as used for dust control. Assuming 5,000 gallons per irrigation day over 10 acres of active restoration area, and a watering frequency of once every four days (90 days per year), the water demand for restoration would be approximately 4,500,000 gallons per year (14 acre-feet per year, or 1.4 acre-feet per acre per year). This volume estimate would vary based on the total area of open land under active restoration and seasonal changes in water demand, and annual demand would drop as the restoration areas become more established.

2.7 Response Planning, Security and Stormwater Management

The following plans are in place at the SMR and would be utilized during the Project.

2.7.1 Hazardous Materials Business Plan

The present inventory of stored hazardous materials would be removed during Refinery shutdown and decommissioning, prior to the start of demolition. Demolition and remediation would require chemical use such as fuel (e.g., portable fuel tank for small equipment), hydraulic fluids, and lubricants for equipment operations; and some specialty demolition materials such as mastic remover. Large equipment fueling would be handled by a fueling service. All chemicals would be managed in accordance with Cal/OSHA's HazCom requirements.

Upon cessation of Refinery operations and subsequent removal of chemicals from the site, the hazardous materials business plan (HMBP) would be updated accordingly in coordination with the Certified Unified Program Agencies.

If necessary, the HMBP would be updated to include any hazardous material above the reportable quantity that may be brought on site during demolition and remediation. Chemical-specific information would be provided in safety data sheets available through the WebMSDS system.

2.7.2 Emergency Response Plan

The SMR maintains an emergency response plan to ensure that in the event of a fire, hazardous material release, medical emergency, or rescue situation, personnel would be able to respond to the emergency quickly and effectively to minimize personal injuries, environmental damage, and/or property damage. The emergency response plan describes the responsibilities of all Refinery personnel and defines the types of actions that personnel with different levels of training may take in response to an emergency. The emergency response plan also describes and defines the chain of command to be followed by personnel in an emergency, as outlined in the National Incident Management System.

The SMR updated the site operating plan and prepared a Memorandum of Understanding (Operating Plan/MOU) with CAL FIRE/County Fire to address various aspects of site safety and emergency response, including rescue teams for confined space entries as required by Cal/OSHA; emergency responder requirements; CAL FIRE/County Fire notification requirements; and continued access to internal roads and the surrounding dunes.

2.7.3 Emergency Response Capabilities

Under its existing operational systems, the SMR is prepared to respond to emergencies internally, with support from outside authorities if needed. The emergency response team at the SMR is trained and equipped to respond to fires, rescues, hazardous material releases, and other emergencies.

The SMR is coordinating this planning effort with CAL FIRE/County Fire to ensure that adequate and appropriate fire and emergency response resources would be available during demolition and remediation in accordance with the California State Fire code and other applicable codes such as National Fire Protection Association (NFPA) 51B, “Standard for Fire Prevention During Welding, Cutting, and Other Hot Work;” and NFPA 241, “Standard for Safeguarding Construction, Alteration, and Demolition Operations.”

Fire protection and emergency response services and capabilities would continue to be available throughout the Project and would be coordinated with CAL FIRE/County Fire. The SMR has worked closely with CAL FIRE/County Fire to establish an Operating Plan/MOU that would ensure appropriate response measures are established. As the Project evolves, the required level of emergency services and capabilities would decrease. As the Refinery decreases the volume and type of chemicals managed on site, demolishes infrastructure, and reassigns personnel to other locations, the emergency response needs would be comparatively less. These changes have been reviewed and Source coordinated with CAL FIRE/County Fire and are summarized in Table 2.14.

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Table 2.14 Emergency Response Logistics During Demolition and Remediation

System/Equipment	Aboveground Infrastructure Demolition	Belowground Infrastructure Demolition
Emergency response ^a	Emergency medical team on site and 911	911
Rescue team	Phillips 66 or contractor as required by tasks	911
Portable emergency response equipment ^b	Reallocated	Reallocated
Fixed fire monitors	Demolish	NA
Deluge system ^c	Demolish	NA
Firewater loop	Operational/transition to utility water system	Transition to utility water system
Firewater pumps ^{d,e}	Phased out/demolish	NA
Firewater tank	Transition to industrial water tank	Phased out/demolish
Building 85	Demolish	NA
Temporary trailers	Per CAL FIRE/County Fire Code	Per CAL FIRE/County Fire Code

Notes:

- Refinery emergency response team members would be gradually released as the work scope reduces. The fire brigade would be dissolved by the end of facility shutdown and decontamination, and transition to emergency management system personnel during operational hours only.
- Portable emergency response equipment includes fire engines, tender, monitors, hazardous materials equipment, rescue equipment, fire hose, etc.
- Once the deluge system pumps are cleared and the unit is isolated, the deluge system would be taken out of service.
- Upon discontinued use of the stationary firewater pumps, electric pumps may be used to sustain pressure during demolition and remediation.
- Firewater pumps would remain in service until demolition of permanent buildings is completed or other suppression methods are approved.

CAL FIRE = California Department of Forestry and Fire Protection; NA = not applicable; SMR = Santa Maria Refinery.

Source: Phillips 66 Application 2023

2.7.4 Firewater System Components

The firewater system is comprised of the following equipment:

- Firewater loop (48 including hose reels, 200 hydrant locations, and 16 elevated monitors);
- Firewater tank (TK-553) (55,000 barrels);
- Firewater pumps (515-3, 515-4) (2,500 gallons per minute per pump);
- Deluge systems (Coker A/B north and south pump row); and
- Suppression system (Building 85).

The firewater loop would remain in place during facility shutdown and decontamination and during part of demolition. The loop would transition into a utility water system during demolition after building structures have been demolished. The utility water system would remain in place for remediation activities. Some locations of the firewater loop would need to be demolished or reconfigured in process units to allow for demolition activities of surrounding equipment. Elevated monitors would be demolished as elevated equipment is shut down and decontaminated.

The firewater tank (TK-553) would remain in service until buildings are demolished and then it would transition into an industrial water tank. This tank may be used as a utility water tank during remediation for dust control and for irrigation water during restoration. Pending further evaluation, a different tank may be used for these purposes because the capacity of TK-553 is greater than needed during these later activities.

Firewater pumps would continue to undergo annual inspection, testing, and maintenance in accordance with NFPA 25, “Standard for the Inspection, Testing, and Maintenance of Water-Based Fire Protection Systems.” Pump tests include weekly operation for 30 minutes. In accordance with permit restrictions, the firewater pumps are not operated for greater than 50 hours per year.

Firewater and elevated monitors would be taken out of service and demolished with the process units. They would not be required for remediation activities.

2.7.5 Security

Security personnel would monitor all entry points onto the property and perform multiple perimeter checks during their shifts. Consistent with current practice, entry onto SMR property would be subject to inspection at any time while entering on or leaving the property.

2.7.6 Stormwater Management

Stormwater management for the SMR’s existing operations is covered under Individual National Pollutant Discharge Elimination System (NPDES) Permit #CA0000051. This permit allows the Refinery to discharge up to 0.575 million gallons per day of treated production wastewater and stormwater. Contact stormwater is precipitation runoff from areas within the tank berms and from the operating units. Process wastewater and contact stormwater have historically been treated in the water effluent treatment (WET) plant. Most process units and operations areas are located on concrete pads, and tanks have containment berms. Oily wastewater collects in drains within the process areas and routes through an oily-water collection system to an oil/water separator and then to the WET plant.

Non-contact stormwater is stormwater that flows off of Refinery access roads, hardscape areas, and unimproved areas not in contact with process equipment, raw materials, or product or within the oil storage tank containment areas. Non-contact stormwater collects in the non-contact stormwater sewer system and flows by gravity to an evaporation/percolation basin (Stormwater Basin, Figure 2-3, Area 5). Non-contact stormwater does not discharge to the ocean outfall.

Stormwater at the carbon plant has historically been managed independently of the Refinery individual permit. There historically has been no stormwater runoff from the carbon plant. Stormwater management at the carbon plant is the subject of a 2015 no-discharge determination (Order 2014-0057-DWQ) that would remain in effect during facility shutdown and decontamination, and during demolition. The inward grade and soil conditions at the carbon plant result in retention and infiltration of stormwater that flows off of equipment pads. Analysis and observations demonstrate the infiltration capacity of the dune sand soils and the absence of runoff.

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The Refinery site topography is generally graded inward. This condition supports retention and infiltration of stormwater that flows off of equipment pads and minimizes potential for off-site runoff. The highly permeable sandy soils and site topography result in no observable stormwater runoff from the facility. Even during heavy rainfall, stormwater runoff from the operations pads infiltrates soon after encountering the surrounding sandy soil, and there is no observable overland flow or stormwater runoff. These direct observations and the carbon plant no-discharge analysis demonstrate the infiltration capacity of the dune sand soils and the absence of runoff.

Aboveground Demolition

Per the Central Coast RWQCB, Phillips 66 would be required to provide a written Notice of Termination at least 30 days prior to the shutdown of the WET Plant. The WET plant would be shut down following approval from the Central Coast RWQCB and after all runoff from the cleaned pads meets acceptable standards for stormwater quality.

After the WET plant shuts down, stormwater would be managed under the California Industrial General Permit (IGP; NPDES Permit #CAS000001). Pad and equipment cleaning and filing of a Notice of Intent under the IGP would occur before starting demolition.

Belowground Demolition and Remediation

Belowground demolition and remediation would include removal of belowground infrastructure, as necessary, and excavation of contaminated soil. Before starting belowground demolition and remediation, Phillips 66 indicates they would establish coverage under the Construction General Permit (CGP; Water Quality Order 99-08-DWQ). The CGP applies to construction or demolition, including clearing, grading, grubbing, excavation, or any other activity that disturbs greater than one acre. Coverage under the CGP requires electronic filing of a Notice of Intent, preparing a construction SWPPP, and paying the permit fee to the RWQCB.

Post-Remediation Site Contouring and Restoration

As discussed above in Section 2.6, the grading plan would specify final grades, backfill, and compaction. In addition, a sedimentation and erosion control plan would be prepared by Phillips 66, if necessary, in accordance with CZLUO Section 23.05.03 (e.g., if exposed soil areas are left in an unfinished state during the period from October 15 through April 15). In general, selected areas would be re-graded to reduce slopes, with a balance of on-site cut and fill. Existing drainage patterns, soil absorption, and surface runoff patterns would generally be retained, and erosion control and slope stabilization BMPs would be implemented in accordance with the grading plan. Construction SWPPP BMPs would be maintained, as appropriate, through site stabilization and implementation of a restoration plan.

2.8 Required Agency Actions and Required Permits

Table 2.15 lists the regulatory permits, approvals, and reviews that are anticipated for the Project. Phillips 66 would consult with these and potentially other agencies, as needed.

Table 2.15 Agency Permits, Notifications, and Approvals

Regulatory Agency	Potential Permits, Notifications, and Approvals
San Luis Obispo County	<ul style="list-style-type: none"> ▪ DP/CDP with CEQA review ▪ Demolition permit ▪ Grading Plan ▪ Sedimentation and Erosion Control Plan ▪ Grading Slope Variance ▪ Grading ESHA Adjustment ▪ Other ministerial permits ▪ Potential Land Use Covenant
CAL FIRE and San Luis Obispo County Fire Department (CAL FIRE/County Fire)	Updated operations planning, including operational plan, and Fire Marshal approval.
San Luis Obispo County APCD	<ul style="list-style-type: none"> ▪ Dust control plan and other mitigation review ▪ Hydrocarbon contaminated soils PTO ▪ Asbestos notifications ▪ Portable equipment approvals (if required based on size/duration)
Santa Barbara County APCD	The Project may include equipment or operations subject to District permit requirements and prohibitory rules. Therefore, the District may be a responsible agency under the California Environmental Quality Act
Central Coast RWQCB and State Water Resources Control Board	<ul style="list-style-type: none"> ▪ On January 9, 2023, Phillips 66 provided the Central Coast RWQCB NPDES permitting staff a Notice of Planned Changes in the WET Plant regarding treatment processes and shutdown. ▪ Coverage under IGP (National Pollutant Discharge Elimination System Permit #CAS000001) (during aboveground demolition) ▪ Coverage under the Construction General Permit (CGP), with a Stormwater Pollution Prevention Plan (SWPPP) (during belowground demolition and remediation) ▪ Possible remediation plan review and permit
Cal/OSHA and San Luis Obispo County Environmental Health	<ul style="list-style-type: none"> ▪ Asbestos, lead, and elevated structure demolition notifications ▪ Certified Unified Program Agency (CUPA) review, Business Plan updates, and closure planning
California State Lands Commission	Wastewater Outfall disposition
California Department of Fish and Wildlife and U.S. Fish and Wildlife Service	Potential need for state and/or federal Incidental Take Permits for impacts to listed species if avoidance is not feasible

Notes: ACPD = Air Pollution Control District; CAL FIRE = California Department of Forestry and Fire Protection; Cal/OSHA = California Division of Occupational Safety and Health; CDP = Coastal Development Permit; CEQA = California Environmental Quality Act; CGP = Construction General Permit; IGP = Industrial General Permit; NPDES = National Pollutant Discharge Elimination System; RWQCB = Regional Water Quality Control Board; SWPPP = Stormwater Pollution Prevention Plan

2.9 References

Phillips 66. 2023. Project Application Materials, Available at https://energov.sloplanning.org/EnerGov_Prod/SelfService#/plan/4947ff7d-43ca-429b-8a75-43df23d047af?tab=attachments.

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Contra Costa County. 2021. Rodeo Renewed EIR. Phillips 66 Rodeo Renewed Project. Available at: <https://ceqanet.opr.ca.gov/2020120330/6>.

Trihydro. 2022. Sampling And Analysis Plan, Phillips 66 Santa Maria Refinery, Arroyo Grande, California, (M&RP No. R3-2008-0070), December 29, 2022, Project #: 703-145-220.

3.0 Cumulative Study Area

This chapter of the Environmental Impact Report (EIR) provides a summary of the methodology used to analyze cumulative impacts and a list of the cumulative projects included in the cumulative analysis.

3.1 Methodology and CEQA Requirements

Section 15130 of the California Environmental Quality Act (CEQA) Guidelines requires that an EIR discuss cumulative impacts of a project when the project's incremental effect is cumulatively considerable, as defined in Section 15065(c). Section 15355 of the State CEQA Guidelines defines “cumulative impacts” as two or more individual effects that, when considered together, are either considerable or compound other environmental impacts. Cumulative impacts are further described as follows:

The individual effects may be changes resulting from a single project or a number of separate projects.

The cumulative impacts from several projects are the change in the environment which results from the incremental impact of the project when added to other closely related past, present, and reasonably foreseeable future projects. Cumulative impacts can result from individually minor but collectively significant projects taking place over a period of time (State CEQA Guidelines, Section 15355[b]).

Furthermore, according to State CEQA Guidelines Section 15130(a)(1):

As defined in Section 15355, a “cumulative impact” consists of an impact that is created as a result of the combination of the project evaluated in the EIR together with other projects causing related impacts. An EIR should not discuss impacts which do not result in part from the project evaluated in the EIR.

In addition, as stated in the State CEQA Guidelines, Section 15064(i)(5):

The mere existence of significant cumulative impacts caused by other projects alone shall not constitute substantial evidence that the proposed project’s incremental effects are cumulatively considerable.

A typical “project-specific” cumulative analysis looks at the changes in the environment that result from the incremental impact of development of a proposed project and other reasonably foreseeable projects that have not been included in the environmental setting. For example, the air quality impacts of two projects in close proximity may prove to be insignificant when project emissions are analyzed separately but could be significant when these emissions are combined and analyzed together. While these projects may be unrelated, their combined (i.e., cumulative) air quality impacts would be significant.

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The goal of the cumulative project analysis is to identify those reasonably foreseeable projects that could have spatial and temporal overlaps with the Project. These projects could have the potential for a significant cumulative environmental impact. Projects with temporal overlaps include those that are planned to occur during the same timeframe as the Project. Projects with spatial overlaps are those that would have impacts in the same area or on the same resources as those of the Project (e.g., emissions that could affect the same air basin).

The area within which a cumulative effect can occur varies by issue area. For example, air quality impacts tend to disperse over a large area, while noise and safety impacts are typically more localized. For this reason, the geographic scope for the analysis of cumulative impacts must be identified for each issue area. The analysis of cumulative effects considers a number of variables including geographic (spatial) limits, time (temporal) limits, and the characteristics of the resource being evaluated. In addition, each of the cumulative projects has its own implementation schedule, which may or may not coincide or overlap with the Project's schedule.

One of the main goals of the cumulative analysis is to determine if a significant adverse cumulative condition presently exists to which Project impacts could contribute, and then to determine if the incremental Project-specific impact to the existing adverse cumulative conditions is cumulatively considerable. If the Project would not result in a Project-specific impact in a specific issue area, then the Project could not contribute to any existing adverse cumulative impact. On the other hand, if a Project-specific impact was found to be significant and unavoidable in a specific issue area, then in most cases this would mean that the cumulative impacts would be significant and unavoidable.

The cumulative impact analysis for each individual issue area is included in the respective discussions in Sections 4.1 through 4.16 of this EIR.

3.2 Cumulative Projects

The EIR uses a list-based approach to determine the potential for cumulative significant impacts. Each of the cumulative project categories is summarized below. The final cumulative projects were assembled from the projects that could both temporally and spatially overlap with the Project, including California Department of Transportation (Caltrans) and County Public Works roadway projects, and projects on Santa Barbara County's cumulative projects list for northern Santa Barbara County. Although some uncertainty exists as far as the final scope, design, and start time of some cumulative projects, the best available information was used to determine the temporal and spatial overlaps. The cumulative projects are summarized in Table 3.1 at the end of this section.

Santa Maria Refinery Projects

There are two recently permitted and ongoing on-site remediation projects at the SMR: the Northern Inactive Waste Site (NIWS) and the Slop Oil Line Release remediation. The NIWS is located in a topographic low spot between two sand dunes near the entrance of the facility. The NIWS was reported to contain refinery trash and nonhazardous debris, slop oil emulsion, API (American Petroleum Institute studies-based system) separator sludge, asbestos contaminated materials, and domestic waste from local residents. The site cleanup, authorized under Coastal

Development/Minor Use Permit DRC2019-00231 and PMTG2020-00056 Major Grading, involved removal of soil and debris totaling approximately 15,000 cubic yards. The remediation earthwork has been completed and the ground surface has been recontoured. Restoration planting was completed in December 2023 and will be followed by monitoring.

In September 2022, the Central Coast Regional Water Quality Control Board (Central Coast Water Board) concurred with Phillips 66 Company's assessment that no further action related to the soil portion of the NIWS is warranted. However, quarterly groundwater sampling to evaluate the presence or absence of contaminants is required to ensure that contaminants previously detected in groundwater will attenuate within a reasonable timeframe. The groundwater sampling will also ensure that the detected levels for future groundwater sampling events are below the 2019 Tier 1 Environmental Screening Levels (ESLs). This project is discussed further in Chapter 2.0, Project Description.

The Slop Oil Line Release was discovered in April 2016 when a release of light non-aqueous phase liquid (LNAPL) impacted groundwater in the center of the plant. No soil remediation is currently anticipated, but a conservative volume is included in soil export calculations for the Project remediation, as a worst case. Groundwater monitoring wells are currently in place and a hydrocarbon recovery system has been installed. Full remediation, including any soil remediation deemed necessary, would occur with implementation of the Project. The Slop Oil Release remediation is discussed in Chapter 2.0, Project Description.

Facilities to remain include some off-site facilities which will be/are idled and abandoned due to the removal of the SMR. As discussed in Chapter 2.0, Project Description, the abandonment of these facilities was discussed in the Rodeo EIR; however, only abandonment, and not removal, of these facilities was addressed in the Rodeo EIR. These cumulative projects would include the removal of the pipeline infrastructure of the Summit Pump Station and the Santa Maria Pump Station. The Santa Maria Pump Station is included in Santa Barbara County permits for removal if the pipeline is abandoned. Although these facilities may be sold and utilized for other projects and have therefore not been required to be removed under their respective existing permits, they may also not be utilized and left abandoned and thereby, under existing permits, be required to be removed. As it is reasonably foreseeable that they could be removed at some point in the future, they have been included in this cumulative analysis. The current permits issued by the County of Santa Barbara (permit #91-DP-003) require the removal of the equipment following permanent shutdown of the pipeline, which at this point has not been required by the County of Santa Barbara.

San Luis Obispo County Projects

Active projects in the County of San Luis Obispo (County) were identified using information from the County Planning & Building Department's Active Planning Projects website and from discussions with County staff. The projects included in the cumulative analysis and are listed below:

- Arroyo Grande Oil Field;
- Caballero Battery Energy Storage System Project;
- Dana Reserve Specific Plan;
- Diablo Canyon Power Plant Decommissioning Project;

3.0 Cumulative Study Area

- Diablo Canyon Power Plant Orano Dry Cask Storage System;
- Los Osos Habitat Conservation Plan; and
- Monarch Dunes Specific Plan Amendment.

These projects are summarized in Table 3.1.

Roadway Projects

There are several Caltrans and the County Public Works roadway projects that could affect roadways near the Project site. These projects are listed in Table 3.1.

Santa Barbara County Santa Maria Area Projects

Some of the larger projects located in northern Santa Barbara County could have the potential to create cumulative project impacts with the Project and have therefore been included in the cumulative projects listing. Santa Barbara County projects located farther away, such as Gaviota and south Santa Barbara County, are considered too distant to have a cumulative project impact and were therefore not included. The northern Santa Barbara County projects are not listed on Figure 3-1 but are included in Table 3.1 and briefly discussed below:

- a. North County Jail Amendment (07GPA-OOOOO-00011): 100-bed transition jail development, Final EIR dated 8/15/2013;
- b. Arctic Cold Industrial Development (20CUP-OOOOO-00005): development of a 436,647-sq. ft. freezer/processor facility development to be located at 1750 East Betteravia Road in the Santa Maria area. The existing parcels total @108.76 acres and the site is zoned AG-II-40. Assessor's Parcel Numbers 128-097-001 (98.96) and 128-097-002 (9.80 acres);
- c. Plantel Nursery Development (19RVP-OOOOO-00115): 1,596,480 sq. ft. of structural development at an existing, permitted nursery; and
- d. Plains Replacement Pipeline Project, DRC2017-00026. Installation of a new or updated pipeline from the ExxonMobil SYU to the Central Valley to replace or repair the pipeline that leaked as part of the Refugio 2015 pipeline spill. Currently delayed or withdrawn pending legal issues.

3.3 Project Not Included in the Cumulative Analysis

Some potential area projects are considered too speculative to be included in the cumulative analysis. These are discussed below.

State Parks Pismo State Beach and ODSVRA Public Works Plan: Volume 1: Draft Plan

Although speculative at this time and therefore not included in the Project cumulative analysis, the State Parks has released a draft plan for the area and therefore a discussion of the plan has been included for informational purposes. Ongoing planning related to Pismo State Beach and the Oceano Dunes State Vehicle Recreation Area (ODSVRA) by the California State Parks Department proposes a number of modifications to areas in their published draft Public Works

Plan (PWP, California State Parks 2020), including potential access to the ODSVRA from the south, including Oso Flaco area and the Phillips 66 site. The projects outlined in the PWP include the following:

- a. Oso Flaco Initial and Future Improvement Project;
- b. Park Corporation Yard Improvement Project;
- c. Oceano Campground Infrastructure Improvement Project;
- d. Pier and Grand Avenue Entrances and Lifeguard Towers Project;
- e. North Beach Campground Facility Improvements Project;
- f. Butterfly Grove Public Access Project;
- g. Pismo State Beach Boardwalk Project;
- h. Small Development Projects (7); and
- i. Phillips 66/Southern Entrance Project (Conceptual).

On March 18, 2021, the California Coastal Commission (CCC 2023) considered the PWP. The CCC did not take any action on the PWP as they determined the PWP to be “...*not consistent with the Coastal Act and the City of Grover Beach and San Luis Obispo County Local Coastal Programs...*” Instead, the CCC amended State Parks’ CDP to operate the ODSVRA, wherein the amended CDP phases out off-highway vehicle (OHV) use within ODSVRA over a three-year period and makes various other changes including the following:

- a. A new vehicle beach camping area between West Grand and Pier Avenue, including ADA access;
- b. The addition of a small low key, interpretative camping area in the southern area of the park, accessible only by “hike-in hike-out”;
- c. The closure of Pier Avenue; and
- d. Various operational changes regarding habitat fencing, trash containers and vehicle access through Arroyo Grande Creek.

The CCC’s March 18, 2021, decision was challenged by various groups who allege the CCC abused its discretion in making this decision. On July 19, 2023, the San Luis Obispo Superior Court issued a ruling regarding this challenge and the court held that the CCC abused its discretion because before it decided to phase out OHV use, it should have sought an amendment to the Local Coastal Program from the County to make that policy change. The ruling vacated the CCC’s March 18, 2021, decision and remanded it back to them for a decision consistent with the ruling. In August 2023, the CCC appealed the court’s decision. Given that the outcome of the appeal is unknown,

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the projects listed above are considered speculative and have not been included in the cumulative projects analysis.

SMR On-Site Facilities

The Project proposes to leave a number of facilities and assets in place that either could be utilized by a future use or are required for regulatory and remediation requirements (see Chapter 2.0, Project Description). These include the facilities listed in Chapter 2.0, Project Description, that are located at the SMR site, including the rail spur, the wastewater outfall line, and other items. Some or all of these facilities could be removed in the future once regulatory requirements are completed (i.e., monitoring wells), or if future uses do not require these facilities (i.e., truck scale). However, the timing and if these facilities would be removed are considered speculative at this time and these on-site activities have not been included in the cumulative projects analysis.

Table 3.1 Cumulative Projects

# ^a	Project	Location	Description	Dates and Numbers
1	Phillips 66 Co. – SMR Site Remediation Projects	2555 Willow Road, near Arroyo Grande (Rural South County)	<ul style="list-style-type: none"> NIWS: Minor Use Permit/Coastal Development Permit to allow for the removal of approximately 15,000 cubic yards of soil and debris mounds containing petroleum coke that is impacted with vanadium and nickel that is associated with brick and slag from a former calciner unit. Status: grading completed; restoration ongoing. Slop Oil Line Release: interim remediation for a release from a pipeline discovered in 2016. Status: ongoing. 	NIWS: DRC2019-00231 Slop Oil project ongoing (RWQCB 2022) Geotracker Global ID - SL203121248
2	SMR Off-site Facilities	Santa Maria Pump Station Summit Pump Station	These cumulative projects would include the removal of the pipeline infrastructure of the Summit Pump Station (2a on the map) and the Santa Maria Pump Station (2b on the map) as they are included in Santa Barbara County permits for removal if the pipeline is abandoned. Status: no permits or applications received, but lease conditions require removal if the pipeline is abandoned.	No permits or applications received
3	Caballero Battery Energy Storage System Project	650 Joshua Street, south of the community of Nipomo, and 1000 feet west of Highway 101	The Caballero Battery project is a 100 MW Battery Energy Storage System (BESS) project developed by Origis Energy. Conditional Use Permit (DRC2019-00258) was approved in June 2023. The project will include BESS container units housing battery banks that store electricity for dispatch into the local PG&E grid via the existing and adjacently located PG&E Mesa Substation. Status: The project has an approved entitlement and will start construction in Spring of 2024.	DRC2019-00258/ED23-018 approved by the Planning Commission on June 22, 2023.
4	Arroyo Grande Oilfield	1821 Price Canyon Road on both the east and west sides of Price Canyon Road, approximately 2.7 miles north of the City of Pismo Beach	Sentinel Peak Resources California LLC (formerly Freeport-McMoRan Oil and Gas) Conditional Use Permit (DRC2015-00002) to amend a previously approved Conditional Use Permit (D010386D) granting additional time to install the final 31 oil wells of 95 approved wells at the Arroyo Grande Oilfield. Status: well installation is in process.	DRC2015-00002 D010386D

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Table 3.1 Cumulative Projects

# ^a	Project	Location	Description	Dates and Numbers
5	Dana Reserve Specific Plan	Dana Reserve, west of U.S. Highway 101 and south of Willow Road in the Nipomo area.	The County Planning & Building Department has received an application for the Dana Reserve Specific Plan. The applicant is requesting approval of a Specific Plan that includes open space, trails, parks, residential neighborhoods, flex commercial and village commercial areas, a daycare center, and a satellite community college. Status: In October 2023, the Planning Commission recommended approval of the Specific Plan. The Specific Plan is scheduled to be heard by the Board of Supervisors in April 2024.	Draft EIR Published August 2022 SCN# 2021060558 PLN1118 SUB2020-00047 LRP2020-00007 ED21-094 Approval recommended by Planning Commission October 2023. Board of Supervisors hearing to occur in April 2024
6	Diablo Canyon Power Plant Decommissioning	Diablo Canyon	In 2021, Pacific Gas and Electric Company (PG&E) filed a land use permit application and additional informational supplements to the County for the planned decommissioning of PG&E’s 2,200 MW Diablo Canyon Power Plant (DCPP). The power plant’s Nuclear Regulatory Commission operating licenses were scheduled to expire in 2024 and 2025 for Unit 1 and Unit 2, respectively. In September 2022, SB 846 was signed into law providing the opportunity for the operations of the DCPP to be continued to October 2029 for Unit 1 and October 2030 for Unit 2. Given that extended operations was not guaranteed, PG&E requested the County continue preparation of the Draft EIR, which was issued in July 2023. The Final EIR is anticipated to be issued in August 2024, with a Planning Commission hearing anticipated to occur in November 2024.	CEQA process ongoing, Draft EIR issued July 28, 2023 Final EIR to be issued in August 2024 DRC2021-00092
7	Diablo Canyon Power Plant Decommissioning spent fuel cask system changes	Diablo Canyon	PG&E is also planning on changing the spent fuel cask system and installing new casks as part of a separate project. The Final EIR prepared and certified by the County in 2004 for the DC ISFSI evaluated the use of a Holtec HI-STORM 100 dry cask storage system (Holtec System) for the long-term storage of spent nuclear fuel (SNF) at DC ISFSI Site. The County decision was appealed to the Coastal Commission which found the project approval raised substantial conformity issues regarding compliance with the California Coastal Act and	DRC2021-00080 Approval needed CCC under APPEAL #A-3-SLO-04-035, approved December 2004 by CCC, CDP Amendment to use Orano approved May 2023 by CCC

Table 3.1 Cumulative Projects

# ^a	Project	Location	Description	Dates and Numbers
			assumed jurisdiction of the permit. The Coastal Commission approved the use of the Holtec system. PG&E is now proposing the use of a new system, known as the Orano NUHOMS EOS System. In May 2023, the use of this system was approved by the Coastal Commission until 2030 when PG&E will have to apply for a new or amended permit. Status: The specific construction schedule for installation of the Orano system is uncertain.	
8	Los Osos Habitat Conservation Plan (HCP)	County of San Luis Obispo	The County obtained a programmatic incidental take permit from the U.S. Fish and Wildlife Service in February 2024. The permit is for a term of 25 years to authorize take of covered species associated with covered activities in the Habitat Conservation Plan area, which is approximately 3,560 acres bounded by the Los Osos Urban Reserve Line. As the permittee, the County will have the ability to issue certificates of inclusion to confer incidental take coverage to landowners and other entities as long as their activities are Included on the incidental take permit(s). Status: The HCP has been approved.	Review FEIR Dated July 2020 SCN# 2013091071 Programmatic Incidental Take Permit issued by USFWS Feb. 2024
9	Monarch Dunes Specific Plan Amendment	957-acre development located on the Nipomo Mesa, approximately two miles west of the community of Nipomo	The Monarch Dunes Specific Plan establishes the roadmap for the development of the Woodlands Village (commonly known as “Trilogy at Monarch Dunes”). The applicant’s request is to modify the allowable land uses (as designated in the Monarch Dunes Specific Plan) for four sites within the Woodlands Village through amending the Monarch Dunes Specific Plan. The project, as approved by the Board of Supervisors, includes completion of the Village Center, with shops on the first floor and condominiums on the second, a 65-room hotel in the Village Center, additional duplex homes on land previously designated for the hotel and a public park, and a new public walking trail adjacent to an existing equestrian trail in lieu of the public park. Status: BOS approved June 2023.	Planning Commission hearing October 2022 AFEIR August 2022 Board of Supervisors Approval June 2023 LRP2021-00003
10	Caltrans Roadway Projects listed on Caltrans project portal projectbook.dot.ca.gov	Highway 1 and Valley Rd Hwy 101 at Thompson Ave	a. In design stage: Highway 1 and Valley Rd – ADA upgrades, widen shoulders, bike lanes (ID 15922).	All in design stage

3.0 Cumulative Study Area

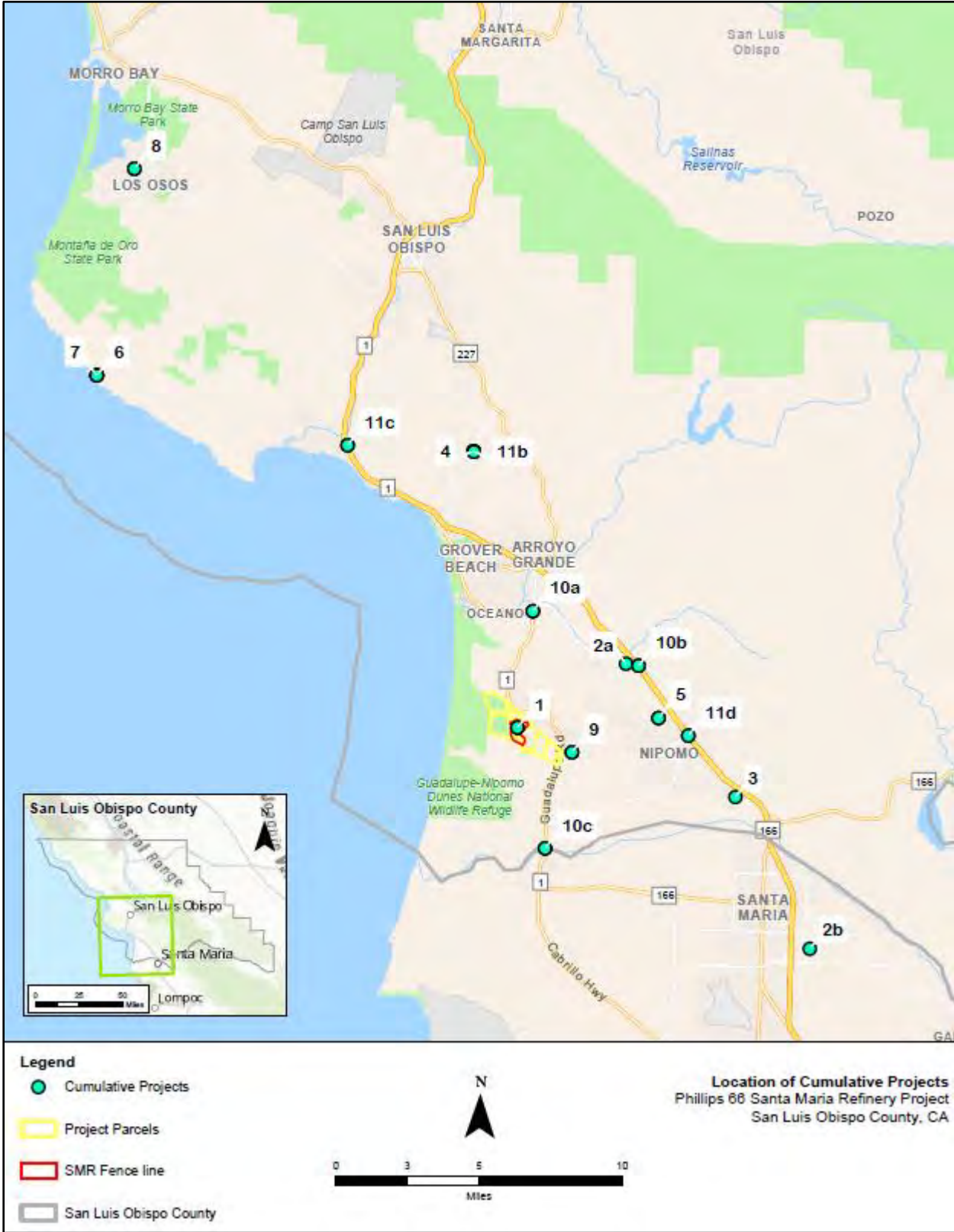
Table 3.1 Cumulative Projects

# ^a	Project	Location	Description	Dates and Numbers
		Hwy 1 at Santa Maria Bridge	<ul style="list-style-type: none"> b. In design stage: Highway 101 at Thompson Ave – Rehabilitate pavement, drainage improvements, bikeways (ID 19164). c. In design stage: Highway 1 at Santa Maria River – Bridge replacement over Santa Maria River (ID 9228). 	
11	County of San Luis Obispo Public Works – Road Closures and Delays	Southern San Luis Obispo County	<ul style="list-style-type: none"> a. Various minor road work with delays up to 10 minutes. b. Road work on Price Canyon - street light install, delays. c. Avila Beach Drive at Highway 101 - installation of a roundabout. d. Tefft Street at Highway 101 - widening and turn movement modifications. e. Main Street at Highway 101 - reconfiguring the interchange. 	Various stages
12	Northern Santa Barbara County various projects (not shown on Figure 3-1)	Santa Maria Valley listed projects in the SB County Cumulative Projects listing, larger projects.	<ul style="list-style-type: none"> a. North County Jail Amendment (07GPA-OOOOO-00011). b. Arctic Cold Industrial Development (9 20CUP-OOOOO-00005). c. Plantel Nursery Development (19RVP-OOOOO-00115). d. Plains Replacement Pipeline Project (DRC2017-00026). 	Various stages

Note: ^a Designates the number used in Figure 3-1 to show the location of the cumulative projects.

Sources: County 2023; Caltrans 2023; and Santa Barbara County 2023

Figure 3-1 Location of Cumulative Projects



Source: Prepared as part of the EIR by MRS 2024

3.0 Cumulative Study Area

3.4 References

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4.0 Environmental Impacts Analysis

This chapter examines the potential environmental impacts of the Phillips 66 Santa Maria Refinery Demolition and Remediation Project (Project). Each issue area analyzed in this chapter provides background information and describes the environmental setting (baseline conditions) to help the reader understand the underlying conditions against which an impact is evaluated. In addition, each section describes how an impact on those underlying conditions is determined “significant” or “less than significant.” Finally, the individual sections recommend mitigation measures to reduce significant impacts. Throughout this chapter, impacts are identified with a letter-number designation (e.g., impact AQ.1, impact BIO.3). Corresponding mitigation measures are connected numerically to their impacts (e.g., AQ.1-1 and BIO.3-1).

This chapter also provides a discussion of the baseline settings determination to be used by all of the issue areas, as discussed below.

This Environmental Impact Report (EIR) includes many references that have been abbreviated to acronyms. A list of acronyms is included following the Table of Contents.

Assessment Methodology

The analysis of each issue area begins with an examination of the existing physical setting (baseline conditions as determined pursuant to Section 15125(a) of the California Environmental Quality Act [CEQA] Guidelines, see below) that may be affected by the Project. The effects of the Project are defined as changes to the environmental setting attributable to the Project components.

Thresholds of significance are identified for each issue area. The thresholds of significance serve as benchmarks for determining if a component action will result in a significant adverse environmental impact when evaluated against the baseline. According to Section 15382 of the CEQA Guidelines, a significant effect on the environment means “a substantial, or potentially substantial, adverse change in any of the physical conditions within the area affected by the project.”

The impacts of the activities that occur related to the Project are described and evaluated in respective sections of this EIR, and the County of San Luis Obispo (County), as CEQA Lead Agency, and other state and local responsible agencies have the authority to impose mitigation measures, conditions, or regulations to reduce or mitigate potential impacts.

Baseline Determination

The purpose of an EIR is to identify the project's significant effects on the environment and indicate the manner in which those significant effects can be mitigated or avoided (California Public Resources Code § 21002.1(a)):

To decide whether a given project's environmental effects are likely to be significant, the Lead Agency must use some measure of the environment's state absent the project, a measure sometimes referred to as the 'baseline' for environmental analysis" (Communities for a Better Environment, supra, 48 Cal.4th at p. 315.).

4.0 Environmental Impacts Analysis

An EIR typically evaluates the potential physical changes to the environment by comparing existing physical conditions (i.e., the baseline) with the physical conditions that are predicted to exist with the implementation of the Project. The difference between these two sets of physical conditions is the relevant physical change to the environment. After the project's predicted environmental effects have been quantified, one can then determine whether those environmental effects are "significant" for purposes of CEQA. Thus, the baseline is a fundamental component of the analysis used to determine whether a proposed project may cause environmental effects and, if so, whether those effects are significant. CEQA Guidelines § 15125 states the following:

Generally, the lead agency should describe physical environmental conditions as they exist at the time the notice of preparation [NOP] is published, or if no notice of preparation is published, at the time environmental analysis is commenced, from both a local and regional perspective. Where existing conditions change or fluctuate over time, and where necessary to provide the most accurate picture practically possible of the project's impacts, a lead agency may define existing conditions by referencing historic conditions, or conditions expected when the project becomes operational, or both, that are supported with substantial evidence.

The SMR operates under a County issued permit (1990 County conditions for SMR operations under County DP/CDP D890287) which allows for the processing of crude oil.

Establishment of baseline conditions using an average of operational characteristics over the last five years of operations is appropriate because the SMR has occupied the site for nearly 70 years, the operational intensity has varied from year to year, and the SMR only very recently (January 2023) stopped receiving and processing crude oil. A summary of annual output over the past five full years (2017–2021) prior to the application submittal in 2022 is provided in Table 4.1. These numbers represent the crude oil received and processed from the offshore and onshore sources delivered to the SMR as refinery “feed”. Table 4.1 also includes wastewater processed, coke handled, daily average truck trips, and annual rail traffic.

Table 4.1 SMR Five-Year Operating History Summary

Year	Crude Oil Throughput, Average Barrels per Day	Wastewater Treated, million gal/year	Coke Handled, tons/year	Daily Average Truck Trips	Annual Rail Cars/Trains
2017	31,126	138.5	290,737	41	99/13
2018	29,638	142.5	276,856	36	135/17
2019	27,342	151.4	209,624	35	104/13
2020	26,236	124.9	267,294	41	64/8
2021	22,093	128.6	215,303	30	106/14
Average	27,287	137.2	251,963	37	102/13

Source: San Luis Obispo County Air Pollution Control District annual emissions reports, form 17 and form 23. Included in Phillips 66 Application materials.

The reconfiguration of the Rodeo Refinery in Contra Costa County in the San Francisco Bay Area resulted in the shut-down of crude oil processing at the SMR in January 2023. The SMR continues to operate, without crude oil processing, at a reduced level associated with the reduction in inventory of previously produced materials (coke and sulfur) being transported from the site.

To allow for a straightforward assessment of the Project impacts and to accurately reflect the environmental setting historically on the Nipomo Mesa, the baseline for purposes of environmental review was considered to be the physical environmental conditions up to January 2023, with an SMR operational baseline of the average of the last full five years of SMR operations prior to the application submittal in 2022 (2017–2021). See Table 4.1.

Adjustment of the baseline to account for the operations of the SMR historically is appropriate since these facilities have undergone CEQA review, are fully permitted to operate, and have all the necessary entitlements for operation, and has been operating in the very recent past. In addition, use of the 5 year historical operations period to establish baseline as opposed to a future “closed condition” is appropriate because: (i) the plant had ceased processing crude oil only three month prior to when the NOP was published; and (ii) comparing the Project’s impacts against historic operations would more accurately assess and disclose the Project’s impacts to what the community around the Project site had been experiencing and was accustomed to over the last 70 years while the plant was in operation.

Project Impact Analysis

Based upon the Notice of Preparation (NOP) and scoping comments, 16 issue/resource areas were identified where potentially significant impacts could occur from the Project. The impact analysis for each of these issue areas is provided in the following subsections of Chapter 4.0. The analysis of each issue area has defined the study area for purposes of the impact analysis. In most cases, the study area is the region that is in the vicinity of the Project.

For each identified issue area, the following framework was used:

- Environmental Setting;
- Regulatory Setting;
- Thresholds of Significance;
- Impact Assessment Methodology;
- Project-Specific Impacts and Mitigation Measures;
- Residual Impacts;
- Mitigation Measure Impacts to Other Issue Areas; and
- Cumulative Impacts.

The residual impact is the impact classification after any mitigation has been applied. If an impact is found to be *less than significant*, then the residual impact would remain *less than significant* with or without mitigation. All residual impacts identified in this document have been classified according to the following criteria:

- ***Class I - Significant and Unmitigable***: Significant adverse impacts that cannot be effectively mitigated. No measures can be taken to avoid or reduce these adverse effects to insignificant or negligible levels.

4.0 Environmental Impacts Analysis

- **Class II – Less Than Significant with Mitigation:** These impacts are potentially similar in significance to those of Class I impacts but can be eliminated or reduced below an issue area’s thresholds of significance by the implementation of mitigation measures.
- **Class III – Less Than Significant:** An adverse impact that does not meet or exceed an issue area’s thresholds of significance. Generally, no mitigation measures are required for such impacts, although they may still be recommended should the lead or responsible agency deem it appropriate to reduce the impact to the maximum extent feasible.
- **Class IV - Beneficial:** Effects are beneficial to the environment.
- **No Impact -** A change that results in no impact on the environment relative to the environmental baseline.

If the impact remains at or above the pertinent threshold of significance after mitigation is applied, it is deemed to be *significant and unavoidable, Class I*. If a “significant impact” is reduced, based on compliance with mitigation, to a level below the pertinent threshold of significance, it is determined to no longer have a significant effect on the environment (i.e., to be *less than significant with mitigation, Class II*). If an action creates an adverse impact above the baseline condition, but such impact does not meet or exceed the pertinent threshold of significance, it is determined to be *less than significant, Class III*. An action that provides an improvement to an environmental issue area in comparison to the baseline information is recognized as a *beneficial impact, Class IV*.

Formulation of Mitigation Measures and Mitigation Monitoring and Reporting Program

When significant impacts are identified, feasible mitigation measures are formulated to eliminate or reduce the severity of the impacts and focus on the protection of sensitive resources. The effectiveness of a mitigation measure is subsequently determined by evaluating the impact remaining after its application. The impacts remaining after mitigation are considered residual impacts. The residual impacts can be either *significant* or *less than significant*. Implementation of more than one mitigation measure may be needed to reduce an impact below a level of significance. The mitigation measures recommended in this document are identified in the impact sections and presented in a Mitigation Monitoring and Reporting Program, provided in Chapter 7.0 of the EIR.

Measures that have been incorporated as part of an applicant’s project design are considered Applicant-proposed measures and are not considered as mitigation measures under CEQA. If they eliminate or reduce a potentially significant impact to a level below the threshold of significance, they eliminate the potential for that significant impact since the “measure” is a component of the action. However, if the Project is approved, the Applicant-proposed measures would be part of the conditions of approval.

Public Resources Code Section 21081.6 establishes two distinct requirements for agencies involved in the CEQA process. Subdivisions (a) and (b) of the section relate to mitigation monitoring and reporting, and the obligation to mitigate significant effects where possible. Pursuant to subdivision (a), whenever a public agency completes an EIR and makes a finding pursuant to Section 21081(a) of the Public Resources Code taking responsibility for mitigation identified in the EIR, the agency must adopt a program of monitoring or reporting which will ensure that mitigation measures are complied with during implementation of an approved project.

The County will be responsible for the monitoring of the mitigation measures adopted pursuant to this EIR. One important step in monitoring is defining the responsibility of the Applicant to support this process. Mitigation measure EM.1 defines this process and is required to support all other mitigation measures and Applicant-proposed measures defined in this EIR.

*EM.1 **County Environmental Monitor:** The Applicant shall provide the funding for a County Environmental Monitor to oversee and monitor compliance with County Conditions of Approval and EIR mitigation measures. The Environmental Monitor shall assist the County in condition compliance and mitigation monitoring for all applicable demolition construction, soil remediation, and site restoration stages of the Project.*

The Environmental Monitor will prepare a working monitoring plan that reflects the County-approved environmental mitigation measures/conditions of approval. This plan will include:

- 1. goals, responsibilities, authorities, and procedures for verifying compliance with environmental conditions of approval/mitigation measures;*
- 2. lines of communication and reporting methods;*
- 3. tracking construction crew training regarding environmental sensitivities;*
- 4. daily and weekly reporting of compliance;*
- 5. authority to stop work; and*
- 6. action to be taken in the event of non-compliance.*

The Environmental Monitor shall be a County employee or under contract to the County of San Luis Obispo, and the entire expense of retaining and supervising the Environmental Monitor, including the County's administrative and overhead fees, shall be paid by the Applicant.

The Applicant shall also be responsible for funding work required by mitigation measures requiring use of individuals with special expertise (e.g., botanist, wildlife biologist). The County's Environmental Monitor will retain and coordinate with specialists as necessary to ensure their availability at appropriate times (i.e., prior to issuance of construction permits, during construction or post-approval, etc.). The Environmental Monitor will coordinate with the Applicant's construction site monitors and permitting and responsible agencies.

***Monitoring/compliance:** Prior to issuance of a construction permit, the Applicant shall provide a detailed Project description, detailed technical work related to any of the Conditions of Approval, and the construction work schedule, including any additional technical work/oversight conducted by the Applicant. This information will be used to obtain the monitor's work scope. Once the consultant is selected and costs are obtained, a trust account will be established to deposit the required funds. **Prior to ground disturbance**, all construction workers shall be informed about the monitor and their*

4.0 Environmental Impacts Analysis

role at the work site. This may be included as a part of any preconstruction meeting. **During construction**, all approved protection measures, if any, shall be kept in good working order by the Applicant and any necessary corrective measures addressed promptly by the Applicant upon discovery. The monitor shall be present as specified in the approved work scope. **Prior to final inspection/occupancy of the construction permit**, the Environmental Monitor shall submit to the County a final post-construction compliance report. Any outstanding items identified shall be addressed to the satisfaction.

Submittal Timing: Prior to ground disturbance or County permit issuance **Approval Trigger:** Issuance of County permit **Responsible Party:** The Applicant or designee **What is required:** Detailed Project Description, Schedule, and Work Plan, and a Cost-Accounting contract funding the County Environmental Monitor **To whom it is submitted and approved by:** County Department of Planning and Building.

Cumulative Projects Impact Analysis

Each issue area in this chapter includes a cumulative impact analysis, which identifies the potential impacts of the Project that might not be significant when considered alone, but that might contribute to a significant impact in conjunction with other projects in the Project vicinity. The list and description of cumulative projects is included in Chapter 3.0, Cumulative Study Area.

4.1 Aesthetics

This section evaluates the Project's potential impacts relating to aesthetics and visual resources and incorporates information regarding the regulatory setting and analysis of viewsheds and visual resources in and around the Project area. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

A primary purpose of this analysis is to determine if a change to the visual environment would occur, whether that change would be viewed as a positive or negative one, and the degree of any change relative to the existing setting. If the Project has a potential to cause visual impacts, this section specifically defines those impacts.

As described in Chapter 2.0, Project Description, the Project would include the demolition of aboveground infrastructure and remediation of the site, followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

This analysis focuses on the potential for the Project components to result in impacts to visual resources as seen from public locations and roadways. The baseline visual condition is analyzed, visual resources are identified, and a baseline scenic character is established. The analysis methodology evaluates the aggregate effect that the Project may have on the overall visual character of the Project site and surrounding landscape. If a change in character is identified, it is compared to viewers' expected sensitivity, and is reviewed for consistency with applicable County of San Luis Obispo (County) and State of California planning policies. Levels of impact are determined according to California Environmental Quality Act (CEQA) Guidelines and definitions and County Thresholds of Significance guidance.

4.1.1 Environmental Setting

4.1.1.1 Regional Visual Setting

The regional landscape can be generally characterized as an ancient marine terrace sitting between the Pacific Ocean and the Temattate Hills to the east. Much of the region consists of underlying sand dune complexes along the beach, transitioning to broad inland mesas. Creeks and drainages in the region generally have an east-west orientation as they flow to the ocean. The Santa Maria Riverbed passes to the south of the Project area. The natural landscape typical of the inland portions of the region includes coast live oak woodland, chaparral, and grasslands, with healthy riparian corridors along the creeks and drainages. Unique and adapted plant communities are seen along the immediate coastline and into the dune complex. Large eucalyptus trees were introduced into the region as a timber crop and over the years have established themselves over much of the Nipomo Mesa. The large size of these eucalyptus groves visually dominate many parts of the

4.1 Aesthetics

regional landscape. The coastal dune complex, which is among the largest of its type in the State of California, extends from the shoreline to as much as approximately two miles inland.

The region is visually defined by an underlying rural character. Agriculture, open space and recreation, larger-lot residences, and light industry make up much of the regional land use (Figure 4.1-1). Over the past few decades, the Nipomo area has been one of the faster growing regions of the County. Extensive planned residential subdivisions and golf resorts have been constructed and are continuing to be developed, resulting in an incremental loss of rural appearance within the region. Although the area is becoming more suburbanized, it still retains much of its rural visual character, due in large part to the abundant cropland, open space, dunes, and proximity to the Pacific Ocean. These attributes contribute to a moderately high visual quality for the region (see Figures 4.1-1 and 4.1-2).

Figure 4.1-1 Regional Visual Character – Looking east toward the Nipomo Mesa



Source: Carr 2023

The combined parcels total 1,642-acres of property owned by Phillips 66 situated between the coastal dunes and the Nipomo Mesa to the northeast. Land use surrounding the property includes golf course and residential development to the northeast, the Oceano Dunes State Vehicular Recreation Area (ODSVRA) to the west, and agricultural cropland to the south. Several commercial and light to heavy industrial uses such as auto-dismantlers and storage yards are found immediately east of the property. State Highways 1 and 101 are the primary transportation routes through the region, with Highway 1 passing immediately to the north and east of the Project site. The Southern Pacific Railroad tracks bisect the Phillips 66 property and pass immediately west of

the Santa Maria Refinery (SMR or Refinery) facility. The regional context transitions to the Santa Maria Valley to the south, consisting of broad, flat agricultural croplands which meet the dunes as they approach the coastline. The unincorporated community of Nipomo is located along State Highway 101 and serves as the commercial center of the Nipomo Mesa. The town of Guadalupe is situated on Highway 1 in the Santa Maria Valley south of the Project area. Arroyo Grande to the north and Santa Maria to the east are the largest cities serving the region.

Figure 4.1-2 Regional Visual Character – Looking north from Oso Flaco Road toward the SMR

Source: Carr 2023

4.1.1.2 The Project Site

The Phillips 66 property is located in the southwestern portion of the County, approximately 2.5 miles east of the Pacific Ocean. The Project property is comprised generally of the vegetated back-dune area inland from the more active Pismo dune complex. The landform and landcover of the property are defined by rolling topography covered primarily by coastal scrub and sparse grasses. Low ridgelines cross the property in an east-west direction, and the overall landform gradually decreases in elevation to the south, toward Little Oso Flaco Creek. Because of the undulating topography, views through and across the property tend to be limited. A few scattered trees can be seen throughout the property, although most of the larger native vegetation is found along the creek near the property's southern edge.

4.1 Aesthetics

The SMR facility occupies the approximate middle of the property. The SMR's tall stacks and towers can be seen from much of the surrounding area. Because of topography and intervening vegetation, the SMR's buildings and ground-floor activities are mostly blocked from viewpoints to the north and east. Southwest of the property, the landform flattens-out such that viewpoints in that area have the most visual exposure to the SMR facility itself (see Figure 4.1-2). The overall visual character of the SMR presents a heavy-industrial use. Visible on-site elements include the large stacks, storage tanks, the crude oil processing plant itself, aboveground pipes, material storage, large-scale equipment and trucks, railroad tracks, and train cars. Some of the tallest elements include the process water stripper at 128 feet in height with a 5-foot diameter, an associated surge tank at 42 feet high with a 90-foot diameter, and the flare at 200 feet tall with a diameter of 2.5 feet. These were approved in 1990 to exceed the Industrial land use height limits under the currently applicable Development Plan/CDP D890287D.

The majority of the SMR Project site has been leveled, and a large employee parking area is located along its western side. Several paved and unpaved service and access roads are seen throughout and surrounding the facility. The coke processing area is recognized by its noticeably black ground-plane. The SMR facilities are surrounded by chain link and barbed-wire perimeter fencing (see Figure 4.1-3).

Figure 4.1-3 Project Site Visual Character – The SMR as seen from the Highway 1 entry road



Source: Carr 2023

An existing rail spur is located in and near the coke processing area. The coke processing and storage area is highly disturbed and shows an intense heavy industrial use. East of the SMR facility

the landscape becomes more natural in appearance. In this eastern area the undulating back dunes are mostly stabilized with sparse, low-lying vegetation, and the surrounding topography somewhat limits views to the Project site, particularly as seen from viewpoints to the north and northeast (see Figure 4.1-4).

Figure 4.1-4 Project Site Visual Character – The Project site looking west from Highway 1



Source: Carr 2023

4.1.2 Regulatory Setting

Visual impacts resulting from the demolition and remediation Project are within the jurisdiction of the County. The regulatory setting pertaining to visual resources includes the County's review of the proposed development's consistency with various elements of the County of San Luis Obispo General Plan and the San Luis Obispo County Coastal Zone Land Use Ordinance, in addition to the provisions in the CEQA Guidelines relating to visual resources. The following goals, policies, and guidelines provide a basis for determining levels of potential impact as well as an indication of aesthetic values and sensitivity to visual change.

County of San Luis Obispo Initial Study Checklist

Will the Project:

- a. Create an aesthetically incompatible site open to public view;

4.1 Aesthetics

- b. Introduce a use within a scenic view open to public view;
- c. Change the visual character of an area;
- d. Create glare or night lighting which may affect surrounding areas; or
- e. Impact unique geological or physical features?

Coastal Zone Framework for Planning (Coastal Zone Land Use Element)

Strategic Growth Goal 1: Preserve open space, scenic natural beauty and natural resources. Conserve energy resources. Protect agricultural land and resources (County 2018a).

San Luis Obispo County Coastal Plan Policies

Chapter 10: Visual and Scenic Resources

The Coastal Zone Land Use Element references the California Coastal Act as follows (County 2007):

30251. The scenic and visual qualities of coastal areas shall be considered and protected as a resource of public importance. Permitted development shall be sited and designed to protect views to and along the ocean and scenic coastal areas, to minimize the alteration of natural landforms, to be visually compatible with the character of surrounding areas and, where feasible, to restore and enhance visual quality in visually degraded areas. New development in highly scenic areas such as those designated in the California Coastline Preservation and Recreation Plan prepared by the Department of Parks and Recreation and by local government shall be subordinate to the character of its setting.

Policy 1: Protection of Visual and Scenic Resources

Unique and attractive features of the landscape, including but not limited to unusual landforms, scenic vistas and sensitive habitats are to be preserved, protected, and in visually degraded areas restored where feasible.

Policy 5: Landform Alterations

Grading, earthmoving, major vegetation removal and other landform alterations within public view corridors are to be minimized. Where feasible, contours of the finished surface are to blend with adjacent natural terrain to achieve a consistent grade and natural appearance.

County of San Luis Obispo General Plan Conservation and Open Space Element

Goal VR 1: The natural and agricultural landscape will continue to be the dominant view in rural parts of the county.

Through review of the proposed development and as part of the Environmental Impact Report (EIR) prepared for the Project, consideration will be given to siting in unobtrusive locations, height of structures, visually effective setbacks, lighting, and other Project-specific visual concerns.

Goal VR 2: The natural and historical character and identity of rural areas will be protected.

Policy VR 2.1 Develop in a manner compatible with Historical and Visual Resources

Through the review of proposed development, encourage designs that are compatible with the natural landscape and with recognized historical character, and discourage designs that are clearly out of place within rural areas.

Policy VR 2.2 Site Development and Landscaping Sensitivity

Through the review of proposed development, encourage designs that emphasize native vegetation and conform grading to existing natural forms. Encourage abundant native and/or drought-tolerant landscaping that screens buildings and parking lots and blends development with the natural landscape. Consider fire safety in the selection and placement of plant material, consistent with Biological Resources Policy BR 2.7 regarding fire suppression and sensitive plants and habitats.

Goal VR 7: Views of the night sky and its constellations of stars will be maintained.

Policy VR 7.1 Nighttime Light Pollution

Protect the clarity and visibility of the night sky within communities and rural areas, by ensuring that exterior lighting, including streetlight projects, is designed to minimize nighttime light pollution (County 2010b).

Title 23 Coastal Zone Land Use Ordinance (CZLUO)

23.04.210 - Visual Resources

- e. General Visual Standards for Coastal Development. Notwithstanding subsections (a)-(d) above, all development requiring a coastal development permit must be consistent with the requirements of Coastal Plan Visual and Scenic Resource Policies 1-11 as applicable (County 2014).

23.04.320 - Outdoor Lights

The standards of this section are applicable to all outdoor night-lighting sources installed after the effective date of this Title, except for streetlights located within public rights-of-way and all uses established in the Agriculture land use category. No land use permit is required for lighting facilities, though an electrical permit may be required by Title 19 of this code.

- a. Illumination only: Outdoor lighting is to be used for the purpose of illumination only, and is not to be designed for or used as an advertising display, except as provided by Sections 23.04.300 et. seq. (Signing).
- b. Light directed onto lot: Light sources are to be designed and adjusted to direct light away from any road or street, and away from any dwelling outside the ownership of the applicant.
- c. Minimization of light intensity: No light or glare shall be transmitted or reflected in such concentration or intensity as to be detrimental or harmful to persons, or to interfere with the use of surrounding properties or streets.

4.1 Aesthetics

d. Light sources to be shielded:

- 1) Ground illuminating lights: Any light source used for ground area illumination except incandescent lamps of 150 watts or less and light produced directly by the combustion of natural gas or other fuels shall be shielded from above in such a manner that the edge of the shield is level with or below the lowest edge of the light source. Where any light source intended for ground illumination is located at a height greater than eight feet, the required shielding is to extend below the lowest edge of the light source a distance sufficient to block the light source from the view of any residential use within 1,000 feet of the light fixture.
- 2) Elevated feature illumination: Where lights are used for the purpose of illuminating or accenting building walls, signs, flags, architectural features, or landscaping, the light source is to be shielded so as not to be directly visible from off-site.

e. Height of light fixtures: Free-standing outdoor lighting fixtures are not to exceed the height of the tallest building on the site.

Chapter 5: Site Development Standards

23.05.034 - Grading Standards

- d. Landform alterations within public view corridors. Grading, vegetation removal and other landform alterations shall be minimized on sites located within areas determined by the Planning Director to be public view corridors from collector or arterial roads. Where feasible, contours of finished grading are to blend with adjacent natural terrain to achieve a consistent grade and appearance.
- g. Revegetation: Where natural vegetation has been removed through grading in areas not affected by the landscape requirements (Section 23.04.180 et seq. - Landscape, Screening and Fencing), and that are not to be occupied by structures, such areas are to be replanted as set forth in this subsection to prevent erosion after construction activities are completed. [Amended 1993, Ord. 2649]

Land Use Circulation Element Planning Area Standards - South County Coastal Area Plan

Combining Designations:

Industrial: Union Oil

The following standards apply to the large industrial area west and south of State Route (SR) 1 currently occupied by the SMR and the Santa Maria chemical plant. (LCP) (County 2018b):

1. Permit Requirements. Any proposed modification or expansion of the existing Refinery or coke oven or the construction of partial oil and gas processing facilities to service off-shore derived oil and gas that involves land area beyond that presently developed requires Development Plan approval and shall be subject to the following: (LCP)
 - c. Screening of the facilities from public view through height limitations, careful site design, artificial contoured banks and mounding, extensive landscaping, and decorative walls and fences. (LCP)

- d. Any part of the facilities that cannot effectively be screened by the above methods shall be painted with non-reflective paint of colors that blend with the surrounding natural landscape. (LCP)

San Luis Obispo County General Plan Agriculture Element

Open Space Goal (OSG1) states as an objective to "Identify, protect, sustain, and where necessary restore and reclaim areas with (scenic) characteristics." Agricultural Policy (AGP30b.3) says that "development should use natural landforms and vegetation to screen development whenever possible." Agricultural Policy (AGP30b.4) states that "in prominent locations, to encourage structures that blend with the natural landscape or are traditional for agriculture" (County 2010a).

The San Luis Obispo County Design Guidelines

This document prepared by the County Department of Planning and Building consists of "design objectives, guidelines and examples that will help retain and enhance the unique character of the unincorporated communities and rural areas of San Luis Obispo County" (County 1998).

The following design objective applies to the Project site: RC-7e-Artificial slopes that are visible to the public should match the natural contours in the immediate vicinity.

4.1.3 Thresholds of Significance

The determinations of significance of the demolition and remediation Project impacts are based on applicable policies, regulations, goals, and guidelines defined by CEQA and the County. In addition to comparing the Project to relevant policies and standards, the aesthetic resources assessment identified which specific criteria contribute most to the existing quality of each view, and if change would occur to that criteria as a result of the Project. If a change in visual condition was identified, this change was analyzed for its potential effect on the existing scenic character. This analysis was combined with the potential number of viewers from public vantage points, their sensitivities, and viewing duration in order to determine the overall level of impacts. Specifically, the Project would be considered to have a significant effect on the environment if the effects exceed the significance criteria described below.

For the purpose of this study, short-term visual impacts were considered to be those changes that would be visible for a duration of five years or less. Long-term impacts would be those alterations to the visual environment that would be in effect for a period greater than five years.

4.1.3.1 California Environmental Quality Act Guidelines

The significance of potential aesthetic resources impacts are based on thresholds identified within the County's Initial Study and Appendix G of the CEQA Guidelines. According to the Guidelines, aesthetic impacts would be considered significant if the Project would:

- a. Have a substantial adverse effect on a scenic vista;
- b. Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within an Officially Designated State Scenic Highway;

4.1 Aesthetics

- c. In non-urbanized areas, substantially degrade the existing visual character or quality of public views of the site and its surroundings (public views are those that are experienced from publicly-accessible vantage points). If the project is in an urbanized area, would the project conflict with applicable zoning and other regulations governing scenic quality; or
- d. Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

The CEQA threshold related to scenic resources, threshold b), does not apply because the Project is not within the view corridor of any Officially Designated State Scenic Highway.

4.1.4 Impact Assessment Methodology

The findings of this study are based on multiple field visits conducted over several weeks during June, July, and December 2023, and include review of the site as well as the surrounding area. Resource inventories were conducted both on foot and from moving vehicles, during the day and nighttime. Existing visual resources and site conditions were photographed and recorded. Assessment of Project elements and programs were based on plans and descriptions provided by the Project Applicant. County planning documents and previous studies relevant to the Project and surrounding area were referred to for gaining an understanding of community aesthetic values.

Locations of proposed demolition, remediation, and restoration elements were identified based on descriptions, site plan information and conceptual drawings provided by the Project Applicant. The heights of existing landscape and built elements were used as visual scale references for determining overall Project visibility.

The Project site was then viewed from all potential public viewer group locations on SR 1, Oso Flaco Road, and all other roads and public viewpoints in the vicinity. Resulting from this initial review, representative viewpoints were determined for further analysis, based on dominance of the site within the view, duration of views, and expected sensitivity of the viewer group. Of those representative viewpoints, Key Viewing Areas (KVAs) were selected which would best illustrate the visual changes proposed by the Project. Photo-simulation viewpoint locations were compared to the Key Viewing Areas identified by the analysis. Once verified for accuracy and appropriateness of location, the simulations were used to quantify potential Project visibility and to assess related impacts. Images of the existing views, along with photo-simulations of the Project can be seen in Figures 4.1-6 through 4.1-9. The four KVAs listed in Table 4.1.1 were selected to represent the extent and quality of views to the Project from the surrounding area. A corresponding map of the KVA locations is shown in Figure 4.1-5.

Table 4.1.1 Key Viewing Areas (KVA)

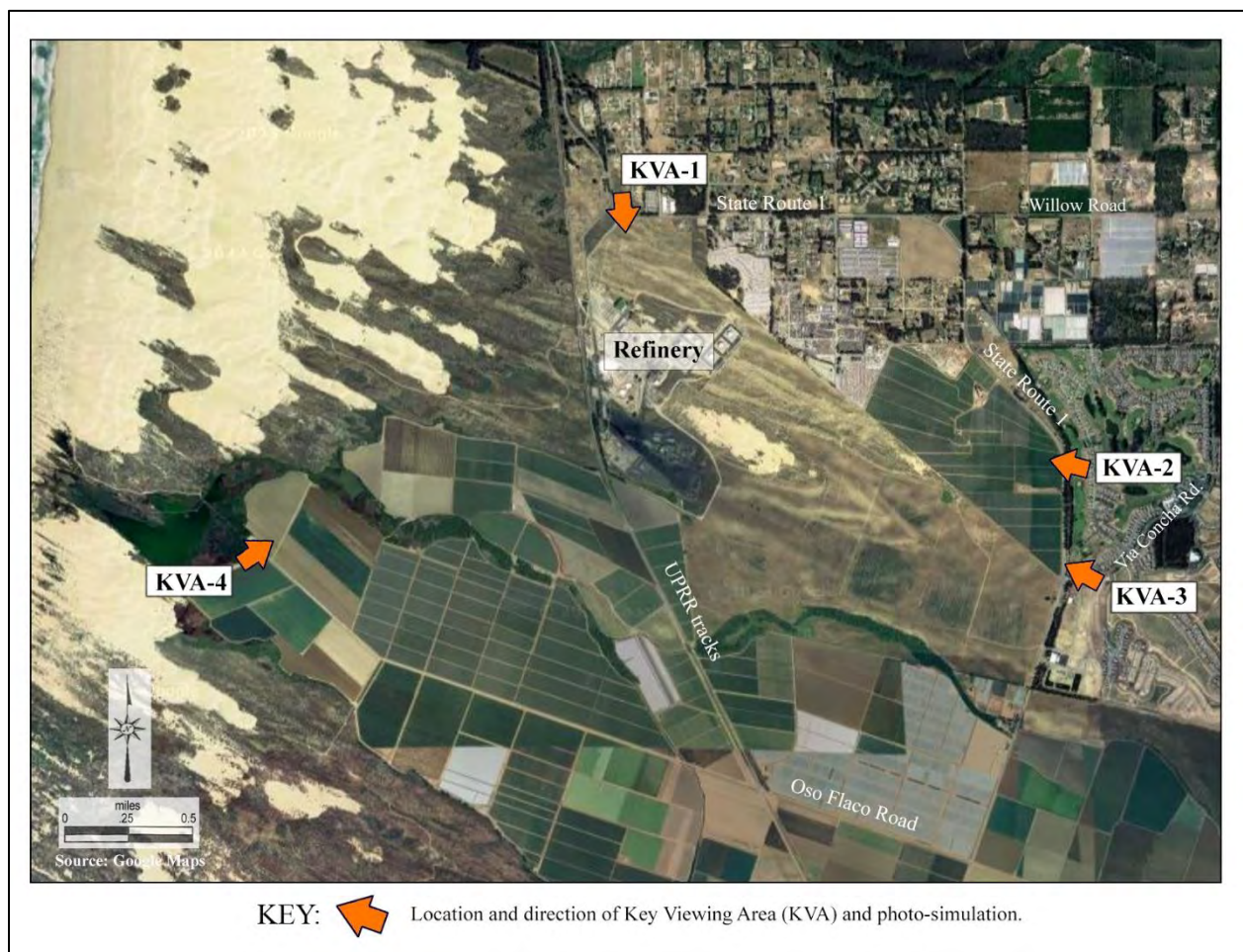
KVA	Location	Figure Number
KVA-1	State Route 1 near the SMR entrance	4.1-6
KVA-2	State Route 1 approximately 0.3 mile north of Via Concha Road	4.1-7
KVA-3	Via Concha Road	4.1-8
KVA-4	Oso Flaco Lake Parking Area on Oso Flaco Road	4.1-9

Project Visibility

From State Route 1

The proposed removal of the SMR would be visible from various sections along SR 1. Currently, the existing SMR can be seen from SR 1 north of the site, near the entry road to the SMR facility (see Figure 4.1-6). Between that area and a location approximately 0.4 mile north of Via Concha Road, intervening topography and existing development generally precludes views to the SMR. Travelling northbound on SR 1 east of the Project, the existing facility comes into view at a point just south of Via Entrada Road and continues along the highway for approximately one mile. From all viewpoints along SR 1, the existing facility is most noticeable by its taller vertical elements and storage tanks (see Figure 4.1-7).

Figure 4.1-5 Key Viewing Area (KVA) Map



Source: Carr 2023

Accordingly, the construction activities involving removal of these taller, more visible existing Refinery elements would also be noticeable from SR 1. In general, most of the existing buildings and ground-level elements are less visible due to surrounding landform and vegetation patterns. The removal of those lower elements may be visible from segments of SR 1 but would be less noticeable in the overall landscape.

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Figure 4.1-6 Existing and Proposed Views from KVA-1 (State Route 1 near the SMR Entrance)



Source: Carr 2023

Figure 4.1-7 Existing and Proposed Views from KVA-2 (State Route 1 approximately 0.3 mile north of Via Concha Road)



Source: Carr 2023

4.1 Aesthetics

Proposed ground-level remediation efforts including temporary stockpiles would be difficult to see from SR 1. Taller construction equipment such as cranes and excavators would be somewhat visible during the active demolition phase of the Project. In the long term, the visually contrasting elements would be removed from view with implementation of the Project.

From Residential Areas East of State Route 1

The SMR can be seen from public roadways and paths within the Trilogy residential development east of SR 1. Westbound Via Concha Road and portions of Louise Lane provide views to the existing facility, similar to those from along SR 1 in this area (see Figure 4.1-8). The SMR is most noticeable by its vertical structures, which extend above the horizon, and the storage tanks. A portion of the existing coke processing area and railroad spur along the southern portion of the facility can also be seen.

From these residential streets the construction activities involving removal of the SMR, particularly the tall components, would be visible in the distance. The proposed minimal contour grading in Area 6 and site restoration efforts would also be partially noticeable in some areas. In the long term, the visually contrasting elements would be removed from view with implementation of the Project.

From Oso Flaco Road

The demolition and remediation Project would be intermittently seen from locations along Oso Flaco Road at viewing distances ranging from approximately one mile to 1.3 miles away. The Project would also be visible from the Oso Flaco Lake public parking area (see Figure 4.1-9). Currently the tall, vertical elements and the storage tanks are the most noticeable components of the SMR due to their visual contrast with the mostly natural surrounding landscape.

Although the viewing distances from Oso Flaco Road somewhat reduce the visual presence of the facility, the existing vertical Project elements can be clearly seen extending above the horizon line and the distant hills. In the long term, the visually contrasting elements would be removed from view with implementation of the Project.

From Amtrak Passenger Trains

The Union Pacific Railroad tracks pass immediately west of the SMR, and Amtrak passenger trains using the tracks provide close viewing opportunities of the existing SMR. Because of this close proximity, many of the individual elements of the SMR are easily discernable, in addition to the highly industrial overall context, although only for a brief period of time while the train is passing.

From this vantage point the construction phase and removal of the majority of the existing above ground structures would also be easily seen. Short-term construction and remediation efforts would be part of the view. The existing switch yard, transmission line, parking lot, guard sheds and some paved roads would remain and would be seen by viewers from this area. Although views of Area 6, Coke Pile, are blocked by vegetation and intervening topography, glimpses of grading and vegetation restoration activities may be visible. In the long term, the visually contrasting elements would be removed from view with implementation of the Project.

Figure 4.1-8 Existing and Proposed Views from KVA-3 (Via Concha Road)



Source: Carr 2023

4.1 Aesthetics

Figure 4.1-9 Existing and Proposed Views from KVA-4 (Oso Flaco Lake Parking Area on Oso Flaco Road)



Source: Carr 2023

From the California Coastal Trail

The California Coastal Trail parallels SR 1 along the Trilogy development frontage. The Coastal Trail in this area is separated from the highway at most locations by mature trees. Views to the SMR can however be seen through gaps in the vegetation. Similar to the views from SR 1 in this area, the SMR is recognizable by its taller, vertical elements and its storage tanks. As seen from this recreational path, the construction removal activities at SMR would be noticeable in the distance to the west. The proposed contour grading and site restoration efforts would also be seen from this area. In the long term, the visually contrasting elements would be removed from view with implementation of the Project (California Coastal Commission 2024).

From the De Anza Trail

The Historic Juan Bautista de Anza Trail corridor passes through the eastern portion of the Project site. This somewhat wide swath is considered to be the general route the explorer and his party traversed through the area. This historic route is commemorated in part by the establishment of the Juan Bautista de Anza recreational trail. In the Project vicinity, this recreational trail follows the alignment of the California Coastal Trail just east of SR 1. As such, views to the SMR as well as views of the demolition and remediation Project are the same as those described from the Coastal Trail (National Park Service 2013).

From the Industrial-Zoned Area to the North

The upper portions of the SMR can be seen from much of this area. Although Sheridan Road, Gasoline Alley Way and other roadways in this area are relatively close to the existing SMR, the adjacent landform limits views to shorter and ground level elements. Where currently visible, construction activities related to the removal of these taller Refinery elements would be seen. In the long term, these visually contrasting elements would be removed from view with implementation of the Project.

From the Oceano Dunes State Vehicular Recreation Area

The upper portions of the SMR facility are visible from the eastern portion of the ODSVRA. Construction activities related to the removal of these facilities would be visible. In the long term, these visually contrasting elements would be removed from view with implementation of the Project.

4.1.5 Project-Specific Impacts and Mitigation Measures

Impact #	Impact Description	Residual Impact
AE.1	Threshold a): Would the Project have a substantial effect on a scenic vista?	Class IV

A substantial adverse impact to a scenic vista would occur if the Project would significantly degrade the scenic landscape as viewed from public roads or from other public areas. The degree of potential impact on scenic vistas varies with factors such as viewing distance, duration, viewer sensitivity, and the visual context of the surrounding area.

4.1 Aesthetics

The aesthetics section analyzes the extent that the Project would alter the visual quality of the Project site and its surroundings. The specific characteristics that define important vistas are identified, and the Project's effect on those characteristics is assessed. If the fundamental quality of the vistas is substantially reduced, significant impacts would result.

As seen from southern viewpoints such as Oso Flaco Road and a portion of SR 1 near Guadalupe, scenic vistas are defined by the agricultural and natural land uses in the foreground and midground, with the hills framing the background to the northeast. From these vantage points the existing SMR is most noticeable by its tall vertical elements and storage tanks, which currently extend above the horizon and interfere with views of the distant hills.

Existing views from eastern viewpoints such as SR 1, the California Coastal Trail, the Juan Bautista de Anza Trail, and nearby residential areas is considered a quality scenic vista because of the panoramic composition of natural and agricultural land use patterns, sweeping views of the dunes and the coastline, and the Pacific Ocean beyond. These existing views include the SMR facility, portions of buildings and ground disturbance, as well as the noticeable taller elements and tanks. As seen from these sensitive viewpoints, the SMR silhouettes against the sky and reduces the quality of the coastal visual resources and the scenic vista.

The Project would remove the majority of the existing SMR, including all of the most noticeable and visually contrasting vertical elements, storage tanks, buildings, and industrial stockpiles. Removal of these elements would allow undisturbed visual access to the surrounding scenic vistas, including quality views of natural and agricultural land, views of the dunes and coastline, and the Pacific Ocean. Impacts would be **beneficial (Class IV)**.

Impact #	Impact Description	Residual Impact
AE.2	Threshold c): Would the Project substantially degrade the existing visual character or quality of public views of the site and its surroundings?	Class IV

The Project setting is considered “non-urbanized” based on CEQA Section 15387 which defines “urbanized area” as a central city or a group of contiguous cities with a population of 50,000 or more, together with adjacent densely populated areas having a population density of at least 1,000 persons per square mile.

Project-related actions would be considered to have a significant impact on the visual character of the site if they altered the area in a way that significantly changed, detracted from, or degraded the visual quality of the site or was inconsistent with community policies regarding visual character. The degree to which that change reflects documented community values and meets viewers’ aesthetic expectations is the basis for determining levels of significance. Visual contrast may be used as a measure of the potential impact that the Project may have on the visual quality of the site. If a strong contrast occurred where Project features or activities attract attention and dominate the landscape setting, this would be considered a potentially significant impact on visual character or quality of the site.

Project components that are not subordinate to the landscape setting could result in a significant change in the composition of the landscape. Consideration of potential significance includes analysis of visual character elements such as land use and intensity, visual integrity of the landscape type, and other factors.

As seen from eastern viewpoints such as SR 1, the California Coastal Trail, the De Anza Trail, and portions of residential streets in the Trilogy and Monarch Ridge developments, the visual identity of the Project site and vicinity is mostly defined by working agriculture, rural lands, natural open space, and residential. The SMR complex and other industrial uses are also visible and influence the existing visual character. North of the Project the industrial uses are more evident, however as seen from eastern viewpoints the agricultural and natural landscape character to the south become more visually dominant. As seen from viewpoints south of the Project such as Oso Flaco Road and a short section of SR 1, views toward the Project site are dominated by agriculture in the foreground and midground, with the Nipomo Mesa and inland hills rising up as a backdrop. From these southern vantage points views of the Project site include the mid-ground open space as well as the industrial Refinery and coke processing area.

From most surrounding vantage points, although the existing SMR occupies a relatively small portion of the overall viewshed, its appearance as a highly industrial facility is in stark contrast with the surrounding predominantly rural and agricultural setting. The noticeability of the SMR is increased by the visibility of the tall, vertical elements which often extend above the horizon and are visually inconsistent with generally rounded and horizontal-oriented forms of the dunes and agricultural landscape.

By removing the SMR facility, including the most noticeable and visually incompatible vertical elements, storage tanks, buildings, and industrial stockpiles, as seen from most viewpoints the Project would increase the site's compatibility with the surrounding rural and agricultural visual character. Following demolition and remediation, the Project site would be transformed from the existing heavy industrial use.

The Project proposes to leave or repave many existing Refinery surface components such as parking areas, roads, fencing, and the switching station. Although the Project's overall visual benefit would be substantial, as seen from closer viewpoints such as Amtrak passenger trains, the remaining paved parking lots, roads, remediation support structures, and fencing would continue to be noticeable. From this closer vantage point, to the casual observer with no knowledge of the Refinery's prior existence, the site would continue to appear as a semi-industrial or utility-oriented development, although to a less extent due to the removal of the vertical elements of the SMR (buildings, towers and tanks).

The SMR demolition along with the majority of remediation activities are estimated to occur within the first five years of the Project. During this phase the site would undergo a substantial amount of activity, including large construction equipment, truck and other vehicle traffic, temporary storage of materials and stockpiles. Some of these activities would be noticeable from surrounding public viewpoints. Where visible, these activities would not be inconsistent with the heavy industrial character of the existing Refinery. In addition, any potential increase in viewer sensitivity would likely be moderated by a public perception of the inherent temporary nature of most construction projects. Project impacts would be **beneficial (Class IV)**.

4.1 Aesthetics

Impact #	Impact Description	Residual Impact
AE.3	Threshold d): Would the Project create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	Class IV

The Project would result in a significant impact if it subjected viewers from public roads or residences to a substantial amount of point-source lighting visibility at night, or if the collective illumination of the Project resulted in a noticeable spill-over effect into the nighttime sky, increasing the ambient light over the region. The placement of lighting, source of illumination, and fixture types combined with viewer locations, adjacent reflective elements, and atmospheric conditions can affect the degree of change to nighttime views. The degree of impact caused by night lighting would consider the type of lighting proposed by the Project along with the lighting reasonably expected to be generated by future Project build-out.

The current light levels in the area vary greatly. The SMR facility is a substantial source of light, and security and operational lighting is highly visible every night of the year. Coastal fog, which occurs often, increases visibility of the lighting by creating a noticeable atmospheric glow surrounding the facility. The other sources of night light are the auto-related industrial area to the north, and the residential areas to the north and east. SR 1 creates nighttime lights in terms of headlights and streetlights at intersections. The lights of Guadalupe can be seen in the distance to the south. The surrounding agricultural areas show very few lights. Looking southwest from SR 1, the eastern portion of the Project site currently emits minimal nighttime lights. Nighttime views to the northwest show a significant amount of light associated with the SMR and coke processing facility.

By demolishing the SMR, the Project would remove all of the higher-level equipment lighting associated with the SMR. Some perimeter lighting along the fenceline would remain, and security lights on the guardhouses and substation, but most light sources currently visible from public areas would be removed. This removal of lighting would substantially reduce a primary source of existing light and glare affecting the surrounding area. Project impacts would be **beneficial (Class IV)**.

4.1.6 Mitigation Measure Impacts to Other Issue Areas

As no mitigation measures are proposed for aesthetics, there would not be any impact from the mitigation measures on other issue areas.

4.1.7 Cumulative Impacts

The cumulative section addresses how this Project may contribute to a change in visual quality when viewed along with other existing and reasonable future development in the area (per CEQA Guidelines, Section 15130).

Portions of the Nipomo Mesa have experienced moderate amounts of new development in the last several years. That development has been mostly residential, with golf resort developments the

most prevalent. Few new or expanded industrial uses have appeared in the local landscape, with the exception of the proposed Caballero Battery project, which would be located far enough away from the Project site that overlapping aesthetic impacts would not occur. The other cumulative projects listed in Chapter 3.0, Cumulative Study Area, which are in the vicinity of the Project, are more non-industrial uses and would fit the existing visual character of the area. By removing the existing highly noticeable SMR, the visual quality of Project site and surrounding area would substantially improve and would reduce or moderate the potential cumulative effect of existing and reasonably anticipated development in the area.

4.1.8 References

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4.1 Aesthetics

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<http://www.nps.gov/juba/index.htm>.

4.2 Agricultural Resources

This section evaluates the Project’s potential to impact agricultural resources within and adjacent to the Project area. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition and remediation of the site followed by soil stabilization or revegetation of disturbed areas and restoration of hardscapes, with some minor long-term operations associated with remediation.

4.2.1 Environmental Setting

4.2.1.1 Regional Setting

The County of San Luis Obispo (County) encompasses an area of approximately 3,300 square miles along the central coast of California and is characterized by a Mediterranean climate, with warm, dry summers and cooler, relatively damp winters. Due to the moderating influence of the Pacific Ocean, mild temperatures occur along the coast with temperatures ranging from 42 degrees Fahrenheit (°F) to 76 °F year-round (Weather Spark 2023). Based on monitoring data recorded between 2006 and 2022, the average annual rainfall along the coast is 14.09 inches (County 2022). The County provides ideal growing conditions for various crops (i.e., fruits, vegetables, wine grapes, etc.) due to the County’s rich soils, temperate weather, and diverse microclimates (County Department of Agriculture 2022).

Farmland Conversion

Based on the California Department of Conservation (CDOC) *California Farmland Conversion Report 2014–2016*, irrigated farmland in California decreased by 11,165 net acres between 2014 and 2016. The highest-quality farmland, known as Prime Farmland, decreased by 18,312 net acres, coupled with a Farmland of Statewide Importance decrease of 26,557 net acres. Partially offsetting these losses was the addition of 33,704 net acres of irrigated crops on lesser-quality soils, mapped as Unique Farmland (CDOC 2023a). In the County, due to an increase in irrigated land resulting from orchard and vineyard planting, there was an upward trend of Prime Farmland, Farmland of Statewide Importance, and Unique Farmland between 2014 and 2016; however, there was a decrease in Farmland of Local Importance and Grazing Land (CDOC 2023a).

In 2022, crop values recorded for the County reached a record high, as the total value of agricultural produce sold to consumers was \$1,084,332,000. This is the third time that the County’s annual agricultural value has exceeded one billion dollars, and it represents a one percent increase in total value over 2021 (County Department of Agriculture 2022). Table 4.2.1 shows the County’s 2020 and 2021 crop values.

4.2 Agricultural Resources

Table 4.2.1 2020 and 2021 Crop Values in San Luis Obispo County

Year	Animal	Field	Nursery	Fruit & Nut	Vegetable	Total
2020	\$46,509,000	\$20,217,000	\$75,883,000	\$603,283,000	\$232,783,000	\$978,675,000
2021	\$43,108,000	\$14,889,000	\$76,503,000	\$713,904,000	\$233,548,000	\$1,081,952,000
2022	\$48,247,000	\$20,056,000	\$98,041,000	\$624,332,000	\$293,656,000	\$1,084,332,000

Source: County of San Luis Obispo Department of Agriculture 2022

Within the County’s South County Coastal Planning Area (South County Coastal Area), agriculture has historically been, and still is, the most widespread land use. According to the *South County Coastal Area Plan*, the South County supports 56,041 acres of agricultural land, which is approximately 57 percent of the area’s land use (County 2018b). According to the *County’s Coastal Zone Framework for Planning*, the Agriculture (AG) land use designation is assigned to land where a combination of soil types, topography, water supply, existing parcel sizes and good management practices will result in the protection of agricultural land for agricultural uses (County 2018a).

Natural Resources Conservation Service Capability Classes

The U.S. Department of Agriculture (USDA) Natural Resources Conservation Service (NRCS) has completed soil surveys for the northern and coastal portions of the County. Each NRCS soil survey report contains a general soil map that depicts a range of soil units that support a distinct pattern of soils and/or other components (i.e., water, sand, outcroppings, etc.) that represent a unique natural landscape. Soils in the Project area are included in the Soil Survey of San Luis Obispo County, California, Coastal Part (USDA SCS 1984).

The NRCS identifies eight soil capability classes that are based on the characteristics of soils that influence their use and management. Soil capability classes are designated by a progressive numbering system in which a higher number indicates greater limitations. The eight NRCS soil capability classes are described below (USDA NRCS 2014):

- **Class I.** These soils have few limitations that restrict their use and are typically used for vegetables, seed crops, orchards, and other irrigated specialty crops and irrigated field crops;
- **Class II.** These soils have minor to moderate limitations that reduce the choice of plants or that require moderate conservation practices. Uses are very similar to those found on Class I soils;
- **Class III and IV.** These soils have moderate to severe limitations that reduce the choice of plants, or that require special conservation practices, or both. In some situations, the Class III soils may be used for some of the crop types that are typically found on Class I and II soils, but are more typically used for specialty crops, forage lands, mixed croplands, and dryland field crops. Irrigated Class IV soils are commonly used for vineyards;
- **Class V.** These soils are not likely to erode but have other limitations, impractical to remove, that limit their use mainly to pasture, rangeland, forestland, or wildlife habitat;
- **Class VI.** These soils have severe limitations that make them generally unsuitable for cultivation, and they have commonly been used for rangeland and dryland grain production;

- **Class VII.** These soils have very severe limitations that make them unsuitable for cultivation, and these lands are primarily used as rangelands for grazing; and
- **Class VIII.** These soils and landforms have limitations that nearly preclude their use for commercial crop production; however, some grazing occurs on these lands.

Farmland Mapping and Monitoring Program

The CDOC Division of Land Resource Protection (DLRP) developed the Farmland Mapping and Monitoring Program (FMMP) to identify farmland designations throughout that state to assist in analyzing potential impacts to agricultural land. Land designations include the following categories: Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Importance, Grazing Land, Urban and Built-up Land, and Other Land. The following technical definitions are defined by the FMMP for the identified land use designations (CDOC 2023b):

- **Prime Farmland.** Farmland with the best combination of physical and chemical features able to sustain long-term agricultural production. This land has the soil quality, growing season, and moisture supply needed to produce sustained high yields. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Farmland of Statewide Importance.** Farmland similar to Prime Farmland but with minor shortcomings, such as greater slopes or less ability to store soil moisture. Land must have been used for irrigated agricultural production at some time during the 4 years prior to the mapping date.
- **Unique Farmland.** Farmland of lesser-quality soils used for the production of the state's leading agricultural crops. This land is usually irrigated but may include non-irrigated orchards or vineyards as found in some climatic zones in California. Land must have been cropped at some time during the 4 years prior to the mapping date.
- **Farmland of Local Importance.** Land of importance to the local agricultural economy as determined by each county's board of supervisors and a local advisory committee.
- **Grazing Land.** Land on which the existing vegetation is suited to the grazing of livestock. This category was developed in cooperation with the California Cattlemen's Association, University of California Cooperative Extension, and other groups interested in the extent of grazing activities. The minimum mapping unit for Grazing Land is 40 acres.
- **Urban and Built-up Land.** Land occupied by structures with a building density of at least one unit to 1.5 acres, or approximately six structures to a 10-acre parcel. This land is used for residential, industrial, commercial, institutional, public administrative purposes, railroad and other transportation yards, cemeteries, airports, golf courses, sanitary landfills, sewage treatment, water control structures, and other developed purposes.
- **Other Land.** Land not included in any other mapping category. Common examples include low-density rural developments; brush, timber, wetland, and riparian areas not suitable for livestock grazing; confined livestock, poultry, or aquaculture facilities; strip mines or borrow pits; and waterbodies smaller than 40 acres. Vacant and nonagricultural land surrounded on all sides by urban development and greater than 40 acres is mapped as Other Land.

County of San Luis Obispo General Plan

Agriculture Element

According to the *County of San Luis Obispo General Plan Agriculture Element*, the different types of agricultural lands in the County include the following (County 2010a):

- **Row Crops Terrain and Soils.** These areas support farming operations that involve labor-intensive use of equipment and chemicals and much vehicle traffic. They are often close to populated areas because these lands have historically been the easiest to develop. These lands are characterized by various types of vegetables, seed crops, orchards, and other specialty crops. The topography in these areas typically consists of nearly level valley bottom lands. Soils typically include Classes I and II, and occasionally Class III.
- **Specialty Crops and Forage Lands.** These lands are characterized by irrigated orchards and vineyards such as wine grapes, avocados, citrus, and apples. Irrigated uses (i.e., alfalfa and pasture) may also be found in these areas. Typical topography includes gently rolling to rolling on 5% to 30% slopes. Soils generally include Classes III and IV.
- **Dry Farm Lands.** Dry land farming covers a broad range of properties that are primarily cultivated for an annual crop, but also may include some orchard operations. Dry farm lands are divided into two types of croplands, mixed croplands and dry croplands, described below.
- **Mixed Croplands.** One type of mixed cropland is found in valleys with good soils but insufficient water for major irrigated uses. Such areas are characterized by mixed agricultural uses such as dry farm grain and hay and scattered irrigated crops. The other type of mixed cropland is found in areas of higher-than-average rainfall, such as the easterly slopes of the Santa Lucia Range, where dry farm orchards and some vineyards occur. Mixed croplands are characterized by dry farm orchards and vineyards and specialty or high-value field crops. The topography of these cropland areas typically ranges from flat to rolling on slopes between 0% and 30%. The soils consist mainly of Classes III and IV.
- **Dry Croplands.** These areas are characterized by grain and hay production that is widespread in the northeastern part of the county. Barley, wheat, and oat hay are the principal crops; other crops include dry beans and safflower. Dry croplands may also include grain stubble fields and intervening non-cultivated areas that provide seasonal forage for livestock. The topography of these areas is generally flat to rolling on slopes between 0% and 30%. The soils consist mainly of Classes III and IV. Class VI land has also been commonly used for grain production.
- **Rangelands for Grazing.** Grazing lands account for a large percentage of privately owned land in the county. Cattle ranching is the predominant use on these lands. The topography is mainly rolling and on steep slopes between 30% and 75%. Rangelands may also include small intervening valleys and ridgetops that have limited use or potential as farmland. The soils consist mainly of Classes IV, VI and VII, but may also contain small intervening areas of other land capability classes.

Conservation and Open Space Element

The *County of San Luis Obispo General Plan Conservation and Open Space Element* (COSE) identifies important agricultural soils mapped by the NRCS throughout the region (County 2010b). Table SL-2 of the COSE organizes soil types into four categories that are based on

NRCS soil classifications, including Prime Farmland (Class I), Farmland of Statewide Importance (Class II), Other Productive Soils (Classes III and IV), and Highly Productive Rangeland Soils (Class V). The differing productivity levels of these soils are used to justify differing levels of protection by the County.

4.2.1.2 Project Area Setting

The parcels make up an approximately 1,642-acre property owned by Phillips 66 situated between the coastal dunes and the Nipomo Mesa to the northeast. The Santa Maria Refinery (SMR) site (Project site) occupies an area that includes the access road parking and the Refinery within a 218-acre portion of the property. The remaining portion of the Phillips 66 property surrounding the site supports grazing activities.

The fenced SMR Project site is on portions of two Assessor's parcels located in the Industrial (IND) land use designation; the remaining parcels under Phillips 66 ownership are designated Agriculture with Industrial overlay (AG/IND) to the south, and Open Space (OS) to the northwest, with the Union Pacific Railroad fee-owned corridor separating the Open Space from the Project site. Surrounding land use designations include Residential Suburban (RS) and IND to the north, IND to the east, OS and Recreation (REC) to the west, AG to the southwest, and AG, and REC and Residential Rural (RR) to the south and southeast.

Developed land uses surrounding the property include golf course and residential development to the northeast, the Oceano Dunes State Vehicular Recreation Area to the west, and agricultural cropland to the south. Several commercial and light industrial uses such as auto-dismantlers and storage yards are found immediately north of the property. The Project area is not subject to a Williamson Act contract. Lands to the south, southwest, and southeast of the Project area are currently subject to Williamson Act contracts.

Soil Setting

According to the USDA NRCS Web Soil Survey (USDA NRCS 2023), the Project area is underlain by the following soil types:

- **Camarillo sandy loam, 0 to 2 percent slopes, cool MAAT, Major Land Resource Area 14** – This soil type is somewhat poorly drained and has a low runoff class, meaning there is low potential for surface runoff during wet conditions (i.e., rain, snowmelt, etc.). This soil type is comprised of sandy loam and stratifies sandy loam to silty clay loam. This soil is considered Prime Farmland if irrigated and drained by the NRCS and has a soil classification of II (irrigated) and III (non-irrigated). As identified in Table 4.2.2, this soil is also considered Prime Farmland and Highly Productive Rangeland Soils by the County's COSE. This soil has a low potential for water erosion and moderate potential for soil blowing (USDA SCS 1984).
- **Dune land** – The majority of the Project area is underlain by dune land, which consists of fine sand. Dune land is not considered a soil type.
- **Oceano sand, 0 to 9 percent slopes** – This soil type is excessively drained and has a negligible runoff class, meaning there is negligible potential for surface runoff during wet

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conditions (i.e., rain, snowmelt, etc.). This soil type is comprised solely of sand. This soil is considered Farmland of Statewide Importance by the NRCS and has a soil classification of IV. As identified in Table 4.2.2, this soil is also considered Farmland of Statewide Importance by the County’s COSE. This soil is susceptible to drought and soil blowing (USDA SCS 1984).

- **Oceano sand, 9 to 30 percent slopes** – This excessively drained soil has a very low runoff class; therefore, there is low potential for surface runoff during wet conditions. This soil type is comprised of sand. This soil has a classification of VI and is not considered Prime Farmland by the NRCS. As identified in Table 4.2.2, this soil is considered Other Productive Soil by the County’s COSE. This soil is susceptible to drought and soil blowing (USDA SCS 1984).

The classifications of soil types at the Project area are summarized in Table 4.2.2 and shown in Figure 4.2-1.

Table 4.2.2 Project Area Soil Classifications

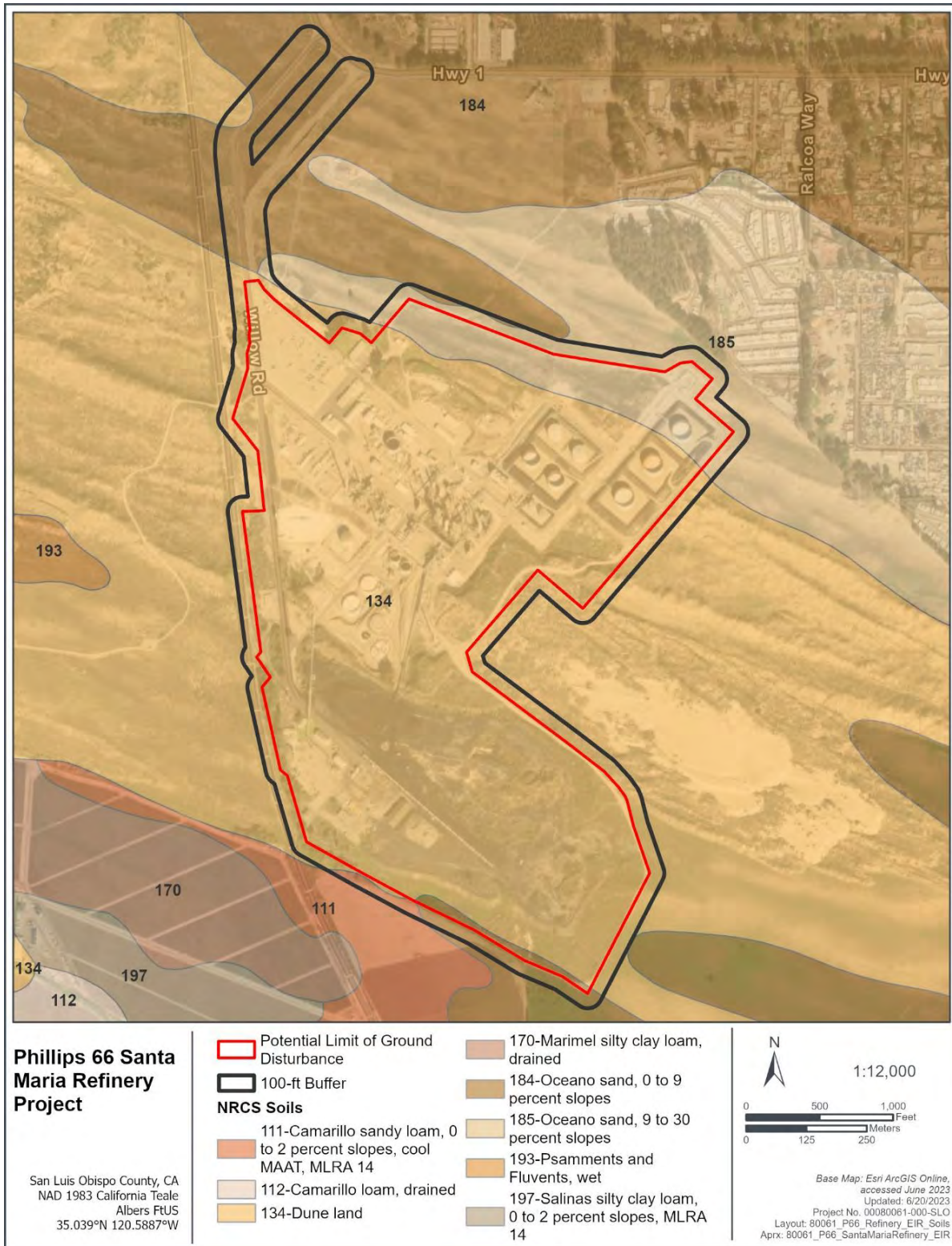
Symbol	Soil Name	Approximate Percentage of Project Area	NRCS Important Farmland Classification	NRCS Capability Class (Irrigated)	NRCS Capability Class (Non-Irrigated)	COSE Important Agricultural Soil Designation
111	Camarillo sandy loam, 0 to 2 percent slopes, cool MAAT, Major Land Resource Area 14	0.3%	Prime Farmland if irrigated and drained	IIw-2	IIIw-2	Prime Farmland; Highly Productive Rangeland Soils
134	Dune land	89.3%	N/A	N/A	N/A	N/A
184	Oceano sand, 0 to 9 percent slopes	1.7%	Farmland of Statewide Importance	IVe-1	VIe	Farmland of Statewide Importance
185	Oceano sand, 9 to 30 percent slopes	8.7%	Non-prime	N/A	VIe	Other Productive Soils

Source: USDA NRCS 2023

Farmland Setting

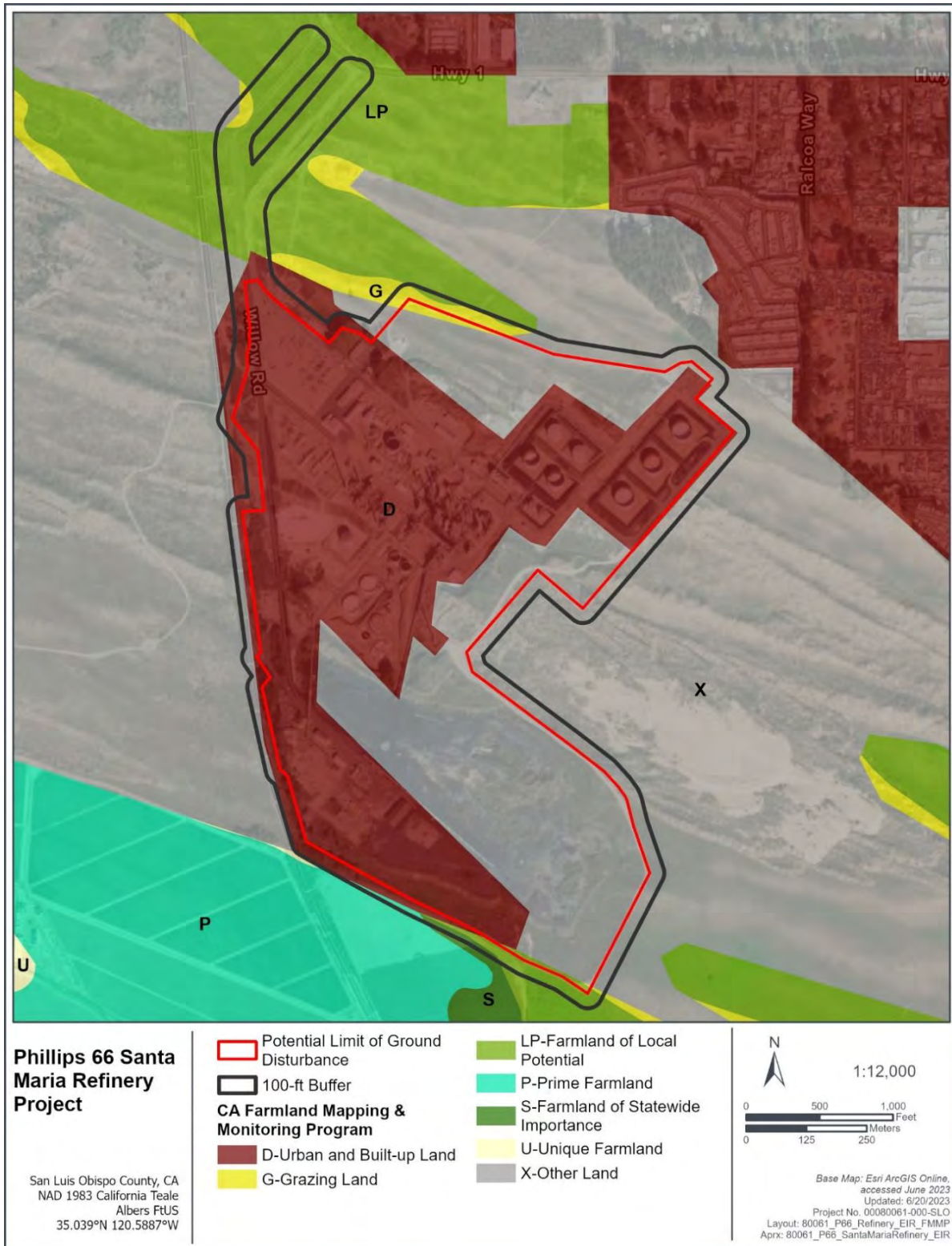
According to the FMMP, the Project area is primarily designated as Urban and Built-Up Land and Other Land. The Project area also includes small areas of land along the northern boundary designated as grazing land and land along the southern boundary designated as Grazing Land and Farmland of Local Potential. The 100-foot buffer surrounding the Project site includes designations for Grazing Land, Farmland of Local Potential, Farmland of Statewide Importance, and Prime Farmland (CDOC 2022). FMMP designations are shown in Figure 4.2-2.

Figure 4.2-1 NRCS Soil Map



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Figure 4.2-2 FMMP Designations



Surrounding land is designated as:

- Farmland of Local Potential, Grazing Land, Urban and Built-Up Land, and Other Land to the north;
- Other Land to the east and west; and
- Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Farmland of Local Potential, and Grazing Land to the south and southwest (CDOC 2022).

4.2.2 Regulatory Setting

4.2.2.1 Federal Regulations

Farmland Protection Policy Act

The Farmland Protection Policy Act (FPPA) of 1981 is governed by the NRCS and is intended to minimize the impact federal programs have on the permanent conversion of farmland to non-agricultural land uses. The policy assures that to the extent feasible, federal programs are administered to be compatible with state and local units of government as well as private programs and policies to protect farmland. For the purpose of the FPPA, farmland includes Prime Farmland, Unique Farmland, and Land of Statewide or Local Importance. Farmland subject to FPPA requirements does not have to be currently used for cropland; it can be forestland, pastureland, cropland, or other land, but not water or urban built-up land.

4.2.2.2 State Regulations

Farmland Mapping and Monitoring Program

The purpose of the FMMP, which is authorized by the CDOC DLRP, is to produce maps and statistical data used for analyzing impacts on California’s agricultural resources. Through this program, agricultural land is rated according to soils quality and irrigation status. Maps are updated every two years using a computer mapping system, aerial imagery, public review, and field reconnaissance.

The FMMP has several land designations based on the criteria identified above. FMMP designations include, but are not limited to, Prime Farmland, Farmland of Statewide Importance, Unique Farmland, Grazing Land, Farmland of Local Importance, Farmland of Local Potential, Urban and Built-up Land, and Other Land, which are described in Section 4.2.1.1, Farmland Mapping and Monitoring Program. The designations for Prime Farmland, Farmland of Statewide Importance, and Unique Farmland are defined together under the terms “Agricultural Land” and “Farmland” in the California Environmental Quality Act (CEQA) (Public Resources Code [PRC] Section 21060.1 and State CEQA Guidelines Appendix G).

Williamson Act

The Williamson Act, also known as the Land Conservation Act of 1965, allows local governments to enter into contracts with private landowners in order to restrict specific parcels of land to agricultural or open space uses. In return, landowners receive property tax assessments

that are much lower than normal because they are based on farming and open space uses rather than full market value (CDOC 2023b). The CDOC assists all levels of government and landowners in interpretation of the Williamson Act.

California Assembly Bill 1492

Assembly Bill (AB) 1492, also referred to as the Laird Bill, provides further clarifications to development on land under a Williamson Act contract or other agricultural land conservation contract. According to AB 1492, any commercial, industrial, or residential building that is unrelated to agricultural use and is constructed on a parcel subject to an agricultural land conservation contract that is not permitted by the contract or by local rules or ordinance is a material breach of contract. Following the breach of contract, the CDOC would be required to inform the local government and require the landowner to cease the operation(s) that caused the breach of contract. In some cases, financial reimbursement may be required.

4.2.2.3 Local Regulations

County Of San Luis Obispo General Plan

Agriculture Element

The County's Agriculture Element is a planning document that has the purpose of protecting agricultural resources within the County by creating policies for promotion of the agricultural industry and preservation of open space within agricultural lands. The goals, policies, and implementation measures of the Agriculture Element address the protection of agricultural resources as well as the protection of open space resources on lands zoned for Agriculture (AG) and on other lands used for production agriculture.

- **Goal AG2. Conserve Agricultural Resources.**
- **Goal AG3. Protect Agricultural Lands.**
- **Policy AGP3. Right-to-Farm Ordinance.**
 - a. This element reaffirms the County's Right-to-Farm Ordinance, Title 5 of the County Code, as an effective means to let the public know that the use of real property for agricultural operations is a high priority and favored use. The Right-to-Farm Ordinance requires disclosure statements between sellers and buyers of properties at the time of property transfer and through inclusion of disclosure statements on all discretionary land use permit applications administered by the County Department of Planning and Building.
 - b. Encourage the County Agriculture Department to: (1) maintain an outreach information program to make the local real estate industry and the public aware of the Right-to-Farm Ordinance and the disclosure provisions on property transactions, and (2) continue mediating issues relating to the Right-to-Farm Ordinance.

- **Policy AGP9. Soil Conservation.**
 - a. Encourage landowners to participate in programs that reduce soil erosion and increase soil productivity. Promote coordination between the Natural Resources Conservation Service, Resource Conservation Districts, Consolidated Farm Services Agency, Morro Bay State and National Estuary, and other agencies and organizations.
 - b. Emphasize the long-range benefits of proper drainage control and tillage, cropping, soil amendment, and grazing techniques to minimize soil erosion.
 - c. Assure that roads and drainage systems on County-controlled properties and facilities do not negatively impact agricultural lands and that the roads and systems are properly maintained.
- **Policy AGP17. Agricultural Buffers.** Protect land designated Agriculture and other lands in production agriculture by using natural or man-made buffers where adjacent to non-agricultural land uses in accordance with the agricultural buffer policies adopted by the Board of Supervisor (see Appendix C of the County of San Luis Obispo General Plan Agriculture Element).
- **Policy AGP24. Conversion of Agricultural Land.** Discourage the conversion of agricultural lands to non-agricultural uses through the following actions:
 1. Work in cooperation with the incorporated cities, service districts, school districts, the County Department of Agriculture, the Agricultural Advisory Liaison Board, Farm Bureau, and affected community advisory groups to establish urban service and urban reserve lines and village reserve lines that will protect agricultural land and will stabilize agriculture at the urban fringe.
 2. Establish clear criteria in this plan and the Land Use Element for changing the designation of land from Agriculture to non-agricultural designations.
 3. Avoid land redesignation (rezoning) that would create new rural residential development outside the urban and village reserve lines.
 4. Avoid locating new public facilities outside urban and village reserve lines unless they serve a rural function or there is no feasible alternative location within the urban and village reserve lines.

Conservation and Open Space Element

The County's COSE provides goals, policies, and implementation measures for the protection of natural resources and open space areas throughout the region. The Open Space Element and Agriculture Element were originally a part of the same document; however, based on the growing need for policies that specifically protect agricultural resources, the two elements were divided into separate elements. Therefore, the County's COSE also identifies some policies and implementation measures for agricultural resources.

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- **Policy SL 3.1. Conserve Important Agricultural Soils.** Conserve the Important Agricultural Soils mapped in Figure SL-1 and listed in Table SL-2 of the *County of San Luis Obispo General Plan Conservation and Open Space Element*. Proposed conversion of agricultural lands to non-agricultural uses shall be evaluated against the applicable policies in this COSE and in the Agriculture Element, including policies such as Policies AGP18 and AGP24.

South County Coastal Area Plan

The South County Coastal Area Plan, included in Part II of the Land Use and Circulation Element (LUCE), serves as a guide for future development with the goal of balancing the social, economic, environmental, and governmental resources and activities to create a better quality of life within the South County Coastal planning area. While the South County Coastal Area Plan does not include specific goals or policies, it provides a framework for long-term planning and identifies general needs of the area. In regard to the agricultural land use within the South County Coastal Planning Area, the South County Coastal Area Plan identifies the need to avoid any appreciable loss of viable farmland and to maintain agricultural preserves established in the region (County 2018b).

Right-to-Farm Ordinance

The County's Right-to-Farm Ordinance is codified County's Land Use Ordinance (LUO) Title 5, Chapter 16. The Right-to-Farm Ordinance has a purpose of enhancing and encouraging agricultural operation within the County and minimizing the loss of agricultural lands due to incompatible land use issues. According to the Right-to-Farm Ordinance, pre-existing agricultural processing and other operations shall not be considered nuisances due to a change in the area surrounding the operations (Section 5.16.030 and 5.16.031).

4.2.3 Thresholds of Significance

The determinations of significance of Project impacts are based on applicable policies, regulations, goals, and guidelines defined by CEQA and the County. Specifically, the Project would be considered to have a significant effect on agriculture and forestry resources if the Project would:

- a. Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;
- b. Conflict with existing zoning for agricultural use, or a Williamson Act contract;
- c. Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g));
- d. Result in the loss of forest land or conversion of forest land to non-forest use; or

- e. Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.

Each of these thresholds is discussed under Section 4.2.5, Project-Specific Impacts and Mitigation Measures, below.

4.2.4 Impact Assessment Methodology

For the purposes of this analysis, relevant database information was reviewed to identify designated Farmland, including Prime Farmland, Unique Farmland, and Farmland of Statewide Importance within the Project region. Prime Farmland, Unique Farmland, and Farmland of Statewide Importance are protected under PRC Section 21060.1. Projects that would result in the direct or indirect conversion of designated farmland would have a significant impact on the environment.

4.2.5 Project-Specific Impacts and Mitigation Measures

The following sections discuss the Project’s potential to result in adverse environmental effects to agricultural resources based on the thresholds identified above.

Impact #	Impact Description	Residual Impact
AG.1	Threshold a): Would the Project convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use?	Class III

The Project includes the demolition of several buildings, structures, and tanks associated with the SMR and remediation of the site where necessary. The SMR encompasses an approximately 218-acre area. According to the FMMP, the SMR is underlain by land that is primarily designated as Urban and Built-Up Land and Other Land. In addition, small areas of land along the northern boundary are designated as Grazing Land and small areas of land along the southern boundary are designated as Grazing Land and Farmland of Local Potential (CDOC 2022). The 100-foot buffer surrounding the Project site includes designations for Grazing Land, Farmland of Local Potential, Farmland of Statewide Importance, and Prime Farmland (CDOC 2022). In addition, the Project site is underlain by soils that are designated as Prime Farmland if irrigated and drained and Farmland of Statewide Importance by the NRCS and Prime Farmland and Farmland of Statewide importance by the County’s COSE (see Table 4.2.2).

The Project includes the demolition of the SMR, including the demolition of existing aboveground facilities with the exception of essential infrastructure and utilities required to be kept in place by regulatory authorities and features retained for site security or for potential use by subsequent site occupants. The Project also includes remediation of soil at the Project site to meet applicable risk-based industrial standards. Existing hardscapes (e.g., concrete, asphalt,

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compacted base/gravel, and asphalt emulsion coating) would remain intact where feasible and would be replaced in areas where they may be demolished or removed for proposed remediation activities.

Per PRC Section 21060.1, projects that would result in the conversion of Prime Farmland, Unique Farmland, or Farmland of Statewide Importance designated by the FMMP would be considered to have a significant impact on the environment. Although portions of the Project area are underlain by land that is designated by the FMMP, NRCS, and County as Farmland of Statewide Importance and Prime Farmland, the Project would remove existing buildings, structures, and other features associated with SMR from the Project site and would remediate the soils at the Project site to remove potential soil contaminants. Therefore, the Project would ultimately restore soils at the Project site. The proposed replacement of hardscapes at the Project site would be limited to the footprint of the existing on-site hardscapes and would not extend into previously undeveloped areas in a manner that could result in the conversion of soils on the site to non-agricultural use. Further, the Project does not include the construction of new buildings, structures, roadways, or other uses that could otherwise result in the conversion of soils on the site to non-agricultural use.

Based on the nature of the Project and required compliance with the County's General Plan Agriculture Element and COSE, the Project would not convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use, and impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
AG.2	Threshold b): Would the Project conflict with existing zoning for agricultural use, or a Williamson Act contract?	Class III

The Project site is located in the IND land use designation and is not zoned for Agricultural uses or subject to a Williamson Act contract. Surrounding land use designations include RS and IND to the north, IND to the east, OS to the west, AG to the southwest, and IND with an AG overlay to the south and southeast. In addition, lands to the south, southwest, and southeast of the Project area are currently subject to Williamson Act contracts. However, the Project would be limited to the 218-acre Project site and would not extend onto surrounding parcels in a manner that could conflict with existing zoning for agricultural use, or a Williamson Act contract. Therefore, the Project would not conflict with existing zoning for agricultural use, or a Williamson Act contract, and impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
AG.3	Thresholds c & d): Would the Project conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g) or result in the loss of forest land or conversion of forest land to non-forest use?	Class III

The Project site and surrounding area does not include land use designations or zoning for forest land or timberland. Further, the Project site does not contain 10 percent native tree cover and does not meet the definition of forestland as defined in Public Resources Code Section 12220(g). Therefore, any tree removal required for the Project would not result in the loss of forestland and the Project would not conflict with existing zoning for forest land or timberland or result in the loss or conversion of forestland, and impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
AG.4	Threshold e): The Project could involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use.	Class II

The Project site is located within the South County Coastal Area, which supports 56,041 acres of agricultural land, which is approximately 57 percent of the area’s land use (County 2018b). There is agricultural cropland located directly to the south and southwest of the Project site and approximately 0.6 mile east of the Project site. As previously stated, the Project includes the demolition of the aboveground infrastructure at the SMR, remediation of the site, and replacement of existing hardscapes where necessary, which would not result in direct conversion of farmland to non-agricultural use or forest land to non-forest use. Other changes to the environment, such as an increase in fugitive dust could nominally adversely affect nearby cropland.

Construction of the Project would result in construction-related emissions, including fugitive dust. Fugitive dust has the potential to affect plant growth by reducing light interception and the ability to perform photosynthesis (Ferguson 1999). Proposed demolition and soil remediation activities located in the southern portion of the Project site would have the potential to disturb existing cropland through an increase in fugitive dust emissions. However, mitigation measure AQ.1-1 has been identified in Section 4.3, Air Quality, to reduce fugitive dust emissions during proposed construction activities through implementation of a Demolition & Remediation Activity Management Plan (DRAMP), which would also reduce the potential to adversely affect nearby cropland through an increase in fugitive dust.

The Project would remediate the site to a level that meets applicable risk-based industrial standards as determined by the Regional Water Quality Control Board (RWQCB). The conceptual remediation approach for the site includes excavation and off-site disposal, which would be conducted in accordance with applicable federal and California regulations to avoid

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release of contaminants within the Project area or along designated haul routes. Based on compliance with RWQCB and other applicable federal and California regulations, the Project would not result in short- or long-term risk of release of contaminants that could affect nearby cropland.

The Project site is located in the Nipomo Mesa Management Area (NMMA) of the Santa Maria Groundwater Basin (SMGB). The SMR, when operating, pumped approximately 1,110 acre-feet per year (AFY) of groundwater for crude oil processing activities. Demolition of the SMR would ultimately reduce groundwater pumping and would increase the availability of groundwater within the SMGB. As such, the Project would not reduce the availability of groundwater for agricultural uses within the SMGB.

Based on implementation of mitigation measure AQ.1-1 to reduce short-term fugitive dust emissions, required compliance with RWQCB and other applicable federal and California regulations to address soil remediation and disposal activities, and required compliance with the County's Right-to-Farm Ordinance to reduce the potential to indirectly convert nearby cropland to non-agricultural uses, the Project would not result in other changes to the environment in a manner that could convert farmland to non-agricultural uses or forest land to non-forest use.

Mitigation Measures

See mitigation measure AQ.1-1.

Residual Impacts

Based on implementation of mitigation measure AQ.1-1 referenced above and discussed in detail in Section 4.3, Air Quality, of this EIR, residual impacts to agricultural resources on site and in the area would be **less than significant with mitigation (Class II)**.

4.2.6 Mitigation Measure Impacts to Other Issue Areas

As no mitigation measures are proposed for agricultural resources, there would not be any impact from the mitigation measures on other issue areas.

4.2.7 Cumulative Impacts

The cumulative impact analysis is based on Chapter 3.0, Cumulative Study Area. Although the Project would not result in the direct or indirect conversion of farmland, other past, present, or reasonably foreseeable future projects located on or near farmland have the potential to result in the direct and/or indirect conversion of farmland to non-agricultural uses.

Because the Project would have no impact related to the conversion of Important Farmland or conflicts with existing agricultural zoning or Williamson Act contracted land, less-than-significant effects on off-site farmland, and negligible effects on off-site forestland, the Project would not result in a cumulatively considerable adverse effect on agricultural resources. The Project would allow for future development of the Project site, which would be subject to Policy AGP24 (Conversion of Agricultural Land) of the County's General Plan Agriculture Element and Policy SL 3.1 (Conserve Important Agricultural Soils) of the County's COSE to discourage

the conversion of agricultural land and important agricultural soils to non-agricultural use and the County's Right-to-Farm Ordinance to reduce the potential to indirectly convert nearby cropland to non-agricultural uses.

Based on the analysis provided above, the Project would not contribute to the cumulative loss of farmland within the County, and impacts would be less than cumulatively considerable.

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4.3 Air Quality

This section discusses construction and operational air emissions that could result from the Project. Greenhouse gas (GHG) emissions are discussed in Section 4.8, Greenhouse Gas Emissions. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition of aboveground infrastructure and remediation of the site, followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

This analysis is intended to provide a reasonable worst-case scenario of potential air emissions resulting from the proposed activities.

Emission calculations and modeling results are included in Appendix C.

4.3.1 Environmental Setting

The County of San Luis Obispo (County) is part of the South Central Coast Air Basin, which also includes Santa Barbara and Ventura counties. The climate of the region is strongly influenced by its proximity to the Pacific Ocean. Airflow around the County plays an important role in the movement and dispersion of pollutants. The speed and direction of local winds are controlled by the location and strength of the Pacific high-pressure system and other global weather patterns, topographical factors, and circulation patterns that result from temperature differences between the land and the sea.

The land area of the County is approximately 3,316 square miles, encompassing varied vegetation, topography, and climate. From a geographical and meteorological standpoint, the County can be divided into three general regions: the Coastal Plateau, the Upper Salinas River Valley, and the East County Plain. Air quality in each of these regions is characteristically different, although the physical features that divide them provide only limited barriers to the transport of pollutants between the regions.

The Project is located within the Coastal Plateau. Approximately 75 percent of the County population, and a corresponding portion of the commercial and industrial facilities, are also within the Coastal Plateau. Due to higher population density and closer spacing of urban areas, emissions of air pollutants per unit area are generally higher in this region than in the other two regions of the County, although the meteorological characteristics of the coastal areas contribute to lower monitoring results.

4.3.1.1 Air Quality Monitoring

Ten air-quality monitoring stations measure the County's air quality (Figure 4.3-1). The San Luis Obispo County Air Pollution Control District (SLOCAPCD) operates eight permanent stations at Atascadero, Carrizo Plain, California Department of Forestry (Arroyo Grande-CDF - CAL FIRE station near the Santa Maria Refinery [SMR]), Mesa2, Morro Bay, Nipomo Regional Park, San Luis Obispo, and Red Hills. The California Air Resources Board (CARB) also operates a Paso Robles Station. SLOCAPCD also assists in the operation of the Oso Flaco Station for the California Department of Parks and Recreation (SLOCAPCD 2023b). All stations except the San Luis Obispo station monitor for wind and temperature. The stations monitor for a different mix of ozone, nitrogen dioxide, sulfur dioxide, and particulate matter (PM) depending on the station.

The closest SLOCAPCD station to the Project area that monitors for Project-related pollutants is the Mesa2 monitoring station, approximately one mile southeast of the Project area (sulfur dioxide, particulate matter). The Arroyo Grande-CDF monitoring station, approximately one mile northeast of the Project site, is examined in this report for particulate matter, and wind speed and direction information only and the Nipomo Regional Park station is utilized for ozone, nitrogen dioxide, and particulate matter.

Air quality monitoring is rigorously controlled by federal and state quality assurance and control procedures to ensure data validity. Gaseous pollutant levels are measured continuously and averaged every hour, 24 hours per day.

Specific Air Pollutants Characteristics

Carbon Monoxide (CO): CO is a colorless and odorless gas formed by the incomplete combustion of fossil fuels. CO competes with oxygen, often replacing it in the blood, thus reducing the blood's ability to transport oxygen to vital organs in the body. The ambient air quality standard for CO is intended to protect people whose medical condition already compromises their circulatory system's ability to deliver oxygen.

Nitrogen Dioxide (NO₂): NO₂ is a brownish gas formed in the atmosphere through a rapid reaction of the colorless gas nitric oxide (NO) with atmospheric oxygen. NO and NO₂ are collectively referred to as nitrogen oxides (NO_x). NO₂ can cause respiratory irritation and constriction of the airways, making breathing more difficult.

Sulfur Dioxide (SO₂): SO₂ is a colorless, pungent gas formed primarily by the combustion of sulfur-containing fossil fuels. Health effects include acute respiratory symptoms and breathing difficulty.

PM₁₀, the coarse fraction of suspended particulate matter measuring 10 microns or less in diameter, includes a complex mixture of man-made and natural substances including sulfates, nitrates, metals, elemental carbon, sea salt, soil, organics, and other materials. PM₁₀ has adverse health impacts because these microscopic particles can penetrate the respiratory system. In some cases, the particulates themselves may cause actual damage to the alveoli of the lungs or they may contain adsorbed substances that are injurious.

Figure 4.3-1 Air Monitoring Stations



Source: SLOCAPCD 2023b

Ambient PM₁₀ concentrations have been primarily a localized issue of concern in the County, including Paso Robles, San Luis Obispo, Morro Bay, and Nipomo. Exceedances in these areas are the major impetus for the County's nonattainment designation for the state PM₁₀ standard. The major sources for PM₁₀ are mineral quarries, grading, demolition, agricultural tilling, road dust, and vehicle exhaust.

PM_{2.5} is a subset of the PM₁₀. In addition to the health effects of PM₁₀, exposure to PM_{2.5} may result in increased respiratory symptoms, disease, and decreased lung function.

In addition to primary criteria pollutants, the SLOCAPCD monitors ozone at various locations throughout the region. Unlike primary criteria pollutants emitted directly from an emissions source, ozone is a secondary pollutant. Ozone is formed in the atmosphere through the photochemical reaction of volatile organic compounds (VOC), NO_x, oxygen, and other hydrocarbon materials with sunlight.

Ozone is a deep lung irritant, causing the passages to become inflamed and swollen. Exposure to ozone alters respiration, most characteristically with shallow, rapid breathing and a decrease in pulmonary performance. Ozone also reduces the respiratory system's ability to fight infection and remove foreign particles.

Ozone exists both at ground level, where it is considered a pollutant with harmful effects and at higher elevations in the lower portion of the stratosphere from approximately 13 to 40 kilometers

4.3 Air Quality

above Earth, where it absorbs more than 95 percent of the sun's ultraviolet light providing a beneficial effect.

Combustion byproducts reacting with sunlight and ambient conditions primarily generate ground-level ambient ozone. Areas where ozone violations primarily occur are the northern and eastern portions of the County, where summer temperatures are high. Ozone levels exceeding the state standard have been measured in Paso Robles, the Carrizo Plain, and Atascadero in recent years. In addition, ozone is carried into the County from upwind regions of the state.

Table 4.3.1 provides a list of the state and national criteria air pollutant standards and their associated attainment status. Because concentrations of ozone and PM₁₀ exceed state health-based standards, the County has been designated as a non-attainment area for these two pollutants.

Table 4.3.2 shows the most recent monitoring data for pollutants for the monitoring stations located in San Luis Obispo County, with the Nipomo Regional Park and the Mesa2/Nipomo stations being closest to the Project site.

Exceedances to the federal ozone standard were noted during this timeframe at monitors located in the eastern County. PM₁₀ and ozone exceed the state standards. The eastern portion of the County has been designated non-attainment for the federal 8-hr ozone standard.

As per the SLOCAPCD annual report in 2022 (the most recent year available):

[The 2022] Ozone overall trends show marked improvement from 2020 and 2021 levels, but a slight increase for the Red Hills station in both hours above 65 ppb and exceedances of the ozone standard in comparison to 2019. That said, in SLO County, the federal 8-hour 70 ppb ozone standard was only exceeded on 1 day in 2022, and that exceedance was at Red Hills.

South County air quality continues to be impacted by dust blown from the Oceano Dunes State Vehicle Recreation Area (ODSVRA). While the federal PM₁₀ standard was not exceeded anywhere in 2022, the more stringent state standard was exceeded on 52 days on the Nipomo Mesa, and most of these exceedances were due to windblown dust. In addition, the Rule 1001 performance standard was violated 30 times. This is an improvement over the previous year when the rule was violated 31 times.

The CARB meteorological data from the Mesa2 and the CDF monitoring stations, approximately one mile southeast and east of the Project site, are the closest stations to the Project site that have detailed wind direction and speed information. This data was plotted into a wind rose (Figure 4.3-2) to demonstrate the predominant wind direction and speeds at the Project site. Figure 4.3-2 shows that the predominate wind blows from the west and northwest 36 percent of the time, and from the east (east and southeast) less than 20 percent of the time. Wind speeds averaged approximately five miles per hour, with periods of stronger winds above 20 miles per hour occurring less than one percent of the time.

Table 4.3.1 State and National Criteria Air Pollutant Standards, Effects, and Sources

Air Pollutant	State Standard (concentration, averaging time)	Federal Primary Standard (concentration, averaging time)	Attainment Status	Most Relevant Effects
Ozone	0.09 ppm, 1-hour average 0.070 ppm, 8-hour	0.070 ppm, 8-hour average	State: Non-attainment Federal: Non-attainment eastern County; Attainment western County	(a) Short-term exposures: (1) Pulmonary function decrements and localized lung edema in humans and animals (2) Risk to public health implied by alterations in pulmonary morphology and host defense in animals; (b) Long-term exposures: Risk to public health implied by altered connective tissue metabolism and altered pulmonary morphology in animals after long-term exposures and pulmonary function decrements in chronically exposed humans; (c) Vegetation damage; (d) Property damage.
Particulate Matter (PM ₁₀)	20 µg/m ³ , annual arithmetic mean 50 µg/m ³ , 24-hour average	150 µg/m ³ , 24-hour average	State: Non-attainment Fed: Unclassified	(a) Excess deaths from short-term exposures and exacerbation of symptoms in sensitive patients with respiratory disease; (b) Excess seasonal declines in pulmonary function, especially in children.
Particulate Matter (PM _{2.5})	12 µg/m ³ , annual arithmetic mean	12 µg/m ³ , annual arithmetic mean 35 µg/m ³ , 24-hour average	State: Attainment Fed: Unclassified	Decreased lung function from exposures and exacerbation of symptoms in sensitive patients with respiratory disease, elderly, and children.
Carbon Monoxide	9.0 ppm, 8-hour average 20 ppm, 1-hour average	9 ppm, 8-hour average 35 ppm, 1-hour average	State: Attainment Fed: Unclassified	(a) Aggravation of angina pectoris and other aspects of coronary heart disease; (b) Decreased exercise tolerance in persons with peripheral vascular disease and lung disease; (c) Impairment of central nervous system functions; (d) Possible increased risk to fetuses.
Nitrogen Dioxide	0.18 ppm, 1-hour average, 0.03 ppm, annual average	0.053 ppm 0.10 ppm 98 th percentile, 3-year average	State: Attainment Fed: Unclassified	(a) Potential to aggravate chronic respiratory disease and respiratory symptoms in sensitive groups; (b) Risk to public health implied by pulmonary and extra-pulmonary biochemical and cellular changes and pulmonary structural changes; (c) Contribution to atmospheric discoloration.
Sulfur Dioxide	0.04 ppm, 24-hour average 0.25 ppm, 1-hour average	0.075 ppm, 1-hour, 99 th percentile 3-year average 0.50 ppm 3hr 0.14 ppm 24-hour 0.03 ppm annual arithmetic mean	State: Attainment Fed: Unclassified	Bronchoconstriction accompanied by symptoms which may include wheezing, shortness of breath and chest tightness, during exercise or physical activity in persons with asthma.

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Table 4.3.1 State and National Criteria Air Pollutant Standards, Effects, and Sources

Air Pollutant	State Standard (concentration, averaging time)	Federal Primary Standard (concentration, averaging time)	Attainment Status	Most Relevant Effects
Lead	1.5 µg/m ³ , 30-day average	0.15 µg/m ³ , roll 3-month average 1.5 µg/m ³ , calendar quarter	Attainment	(a) Increased body burden; (b) Impairment of blood formation and nerve conduction.
Visibility-Reducing Particles	In sufficient amount to give an extinction coefficient of 0.23 per kilometers (visual range of 10 miles or more) with relative humidity less than 70%, 8-hour average (10 a.m. to 6 p.m. PST)	No federal standard	Attainment	Reduction of visibility, aesthetic impact and impacts due to particulates (see above).
Sulfates	25 µg/m ³ , 24-hour average	No federal standard	Attainment	(a) Decrease in ventilatory function; (b) Aggravation of asthmatic symptoms; (c) Aggravation of cardio-pulmonary disease; (d) Vegetation damage; (e) Degradation of visibility; (f) Property damage due to corrosion.
Hydrogen Sulfide	0.03 ppm, 1-hour average	No federal standard	Attainment	Odor nuisance. IDLH and ERPG-3 of 100 ppm
Vinyl Chloride	0.01 ppm, 24-hour average	No federal standard	No information	Known carcinogen.

Notes: µg/m³ = micrograms per cubic meter; ppm = parts per million.

Source: SLOCAPCD 2023c

Table 4.3.2 Monitoring Results

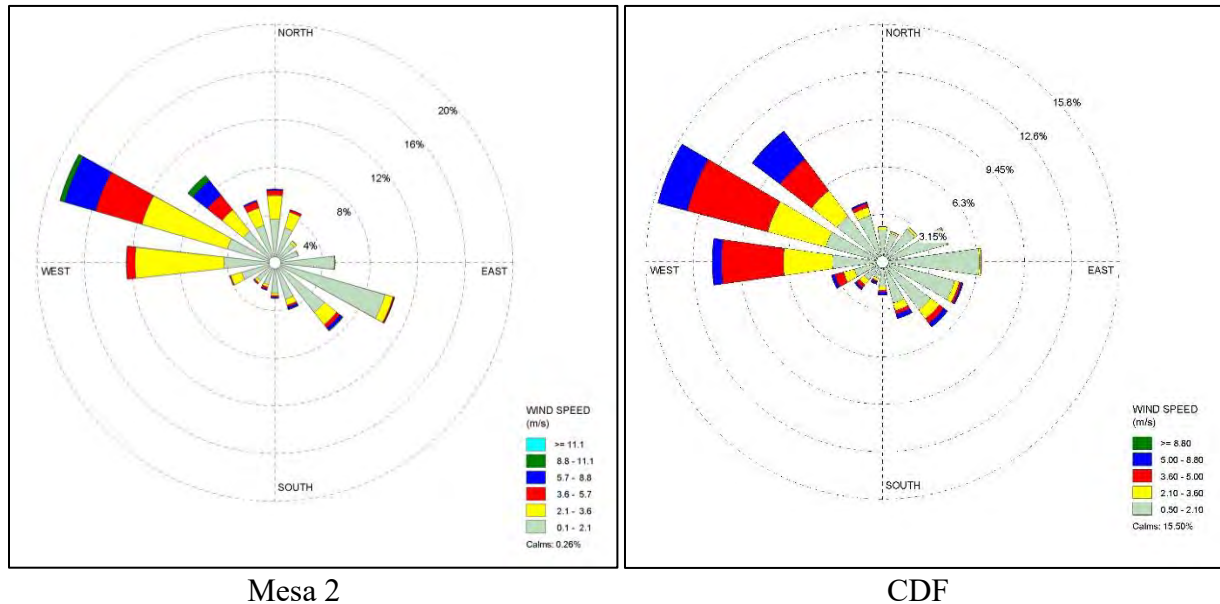
Station	O ₃ 1-hour			O ₃ 8-hour				SO ₂ 1-hour			NO ₂ 1-hour		
	1st	2nd	3rd	1st	2nd	3rd	4th	1st	2nd	3rd	1st	2nd	3rd
Paso Robles	74 05/25	67 08/16	67 09/28	68 05/25	61 06/24	61 09/23	59 05/04						
Atascadero	69 09/02	69 09/28	67 10/04	64 10/03	63 09/05	62 08/26	59 04/01				26 11/17	25 02/10	24 02/11
Morro Bay	59 10/19	58 04/07	53 02/09	54 04/07	54 10/18	51 02/08	50 02/27						
Red Hills	80 05/26	75 09/02	72 06/07	75 05/25	70 09/01	69 09/28	69 10/05						
Carrizo Plain	76 09/08	69 08/16	69 09/25	66 08/16	64 06/07	63 09/01	63 09/02						
Nipomo Regional Park	65 10/19	63 09/05	61 04/07	58 04/07	58 10/18	56 10/19	54 04/08				19 01/12	19 01/13	19 01/28
Mesa2, Nipomo								3.5 04/07	3.5 11/22	3.1 05/12			
Station	Highest 24-hour PM ₁₀			Annual Average PM ₁₀ ⁱ	Highest 24-hour PM _{2.5}			Annual Average PM _{2.5} ⁱⁱ					
	1st	2nd	3rd		1st	2nd	3rd						
Paso Robles	46 10/18	44 05/25	42 06/21	19.4									
Atascadero	38 01/26	38 02/10	37 02/11	17.4	24.3 12/17	22.8 01/20	22.4 01/14	6.14					
San Luis Obispo Roberto Ct.	<u>52</u> 04/09	45 05/19	45 09/09	16.4	25.5 09/09	20.2 04/09	18.7 05/19	6.51					
CDF, Arroyo Grande	<u>103</u> 04/10	<u>100</u> 06/13	<u>96</u> 04/09	<u>29.1</u>	26.8 04/09	26.1 04/10	25.9 06/13	9.12					
Nipomo Regional Park	<u>73</u> 04/09	<u>58</u> 09/09	<u>57</u> 05/19	19.9									
Oso Flaco	<u>67</u> 04/09	<u>66</u> 04/10	<u>58</u> 05/08	19.2									
Mesa2, Nipomo	<u>98</u> 05/13	<u>97</u> 04/10	<u>94</u> 05/07	<u>25.8</u>	24.1 04/10	23.9 06/13	22.3 06/14	6.61					

Note: Nipomo Regional Park and Mesa 2/Nipomo are located closest to the Project site.

Source: SLOCAPCD 2023b

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Figure 4.3-2 Meteorological Station Wind Rose



Note: Wind rose shows the direction that the wind is coming from.

Source: SLOCAPCD meteorological data, Nipomo Guadalupe Road (Mesa2) monitoring station 2008–2012.

4.3.1.2 Countywide Emissions Inventory

This section summarizes the countywide emission inventory.

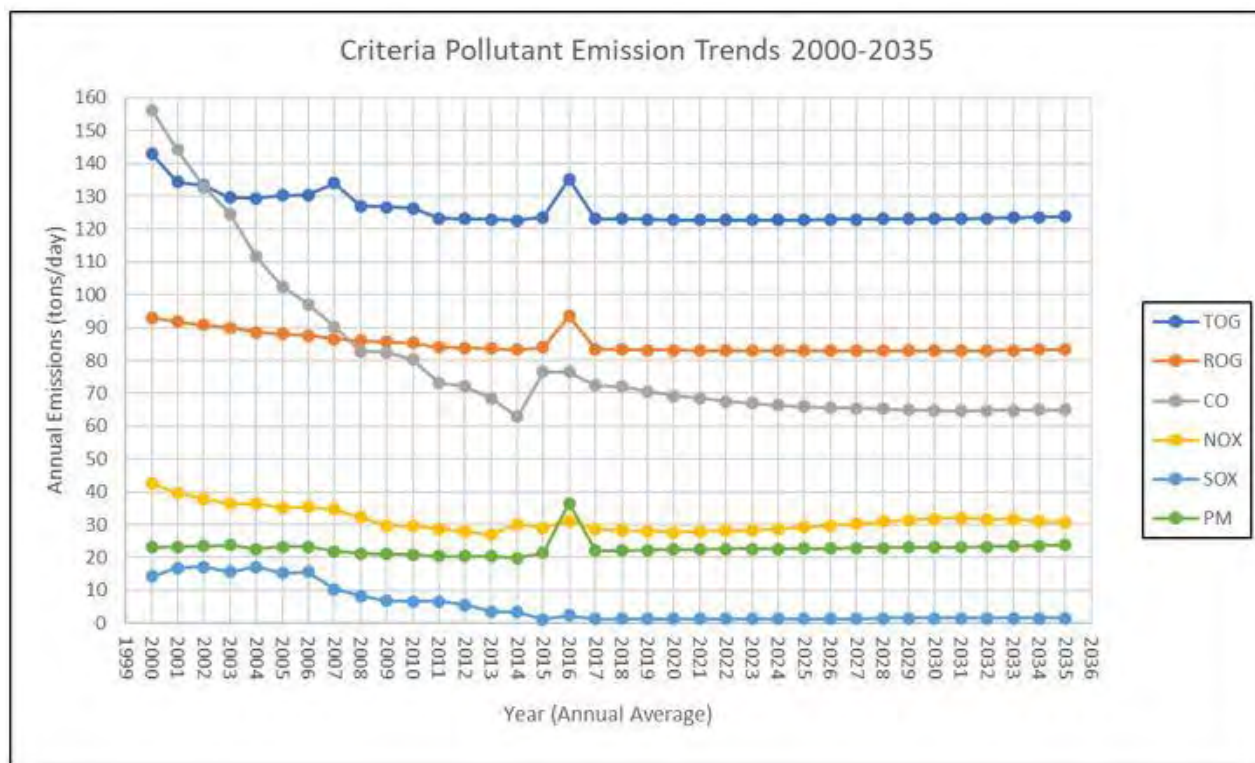
Countywide Criteria Pollutant Emissions

On a regional basis, ozone and particulate matter are the criteria pollutants of significant concern in the County. Ozone is a secondary pollutant, formed in the atmosphere by complex photochemical reactions involving the precursor pollutants of NO_x and reactive organic gases (ROG) and sunlight. Particulate matter is partly formed through atmospheric processes as well as windblown dust.

The amount of ozone formed is dependent upon both the ambient concentration of the chemical precursors and the intensity and duration of sunlight. Consequently, ambient ozone concentration tends to vary seasonally with the weather.

NO_x is emitted primarily from the combustion of fossil fuels with mobile source producing the majority of NO_x emissions. The majority of ROG emissions are also generated by mobile source fossil fuel combustion, wildfires, and through the evaporation of petroleum products. Particulate emissions are generated primarily from windblown and road dust, wildfires, and construction activities. Figure 4.3-3 shows the countywide inventory trends.

Figure 4.3-3 Countywide Inventory Trends



Notes: TOG= total organic gases; ROG= reactive organic gases; CO=carbon monoxide; NO_x= oxides of nitrogen; SO_x= sulfur oxide; PM= particulate matter.

Source: SLOCAPCD 2023b

Countywide Air Toxics

Air toxics are substances that may cause or contribute to an increase in cancer or serious illness, such as respiratory disease. The federal 1990 Clean Air Act Amendments (CAAA) set up a new nationwide air toxics control program. The federal program focuses on larger industrial sources that are of the highest national priority, such as chemical manufacturers. State and local air pollution control agencies adopt measures to minimize Californians' exposure to toxic air contaminants (TAC). The State of California regulates TAC in several ways. The Toxic Air Contaminant Identification and Control Act (Assembly Bill [AB] 1807, Chaptered 1983) created a program to reduce the health risks from air toxics.

This law expanded CARB authority to evaluate and control air toxics. An additional state law, the Air Toxics "Hot Spots" Information and Assessment Act (AB 2588, Chaptered 1987) supplements the original legislation by requiring a statewide air toxics inventory and notifying local residents of significant risks from nearby sources. A 1992 amendment to the law (Senate Bill 1731) requires that risks be reduced from these sources.

The CARB has identified asbestos as a TAC. In its natural state, asbestos occurs throughout many areas. Serpentine is a very common rock type in California and was identified by the CARB as having the potential to contain naturally occurring asbestos. Under the CARB Air Toxics Control Measure (ATCM) for Construction, Grading, Quarrying, and Surface Mining Operations, prior to

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any grading activities at a site, a geologic analysis is necessary to determine if serpentine rock is present. Grading projects larger than one acre in serpentine rock would require prior SLOCAPCD approval of an Asbestos Dust Mitigation Plan and an Asbestos Health and Safety Program.

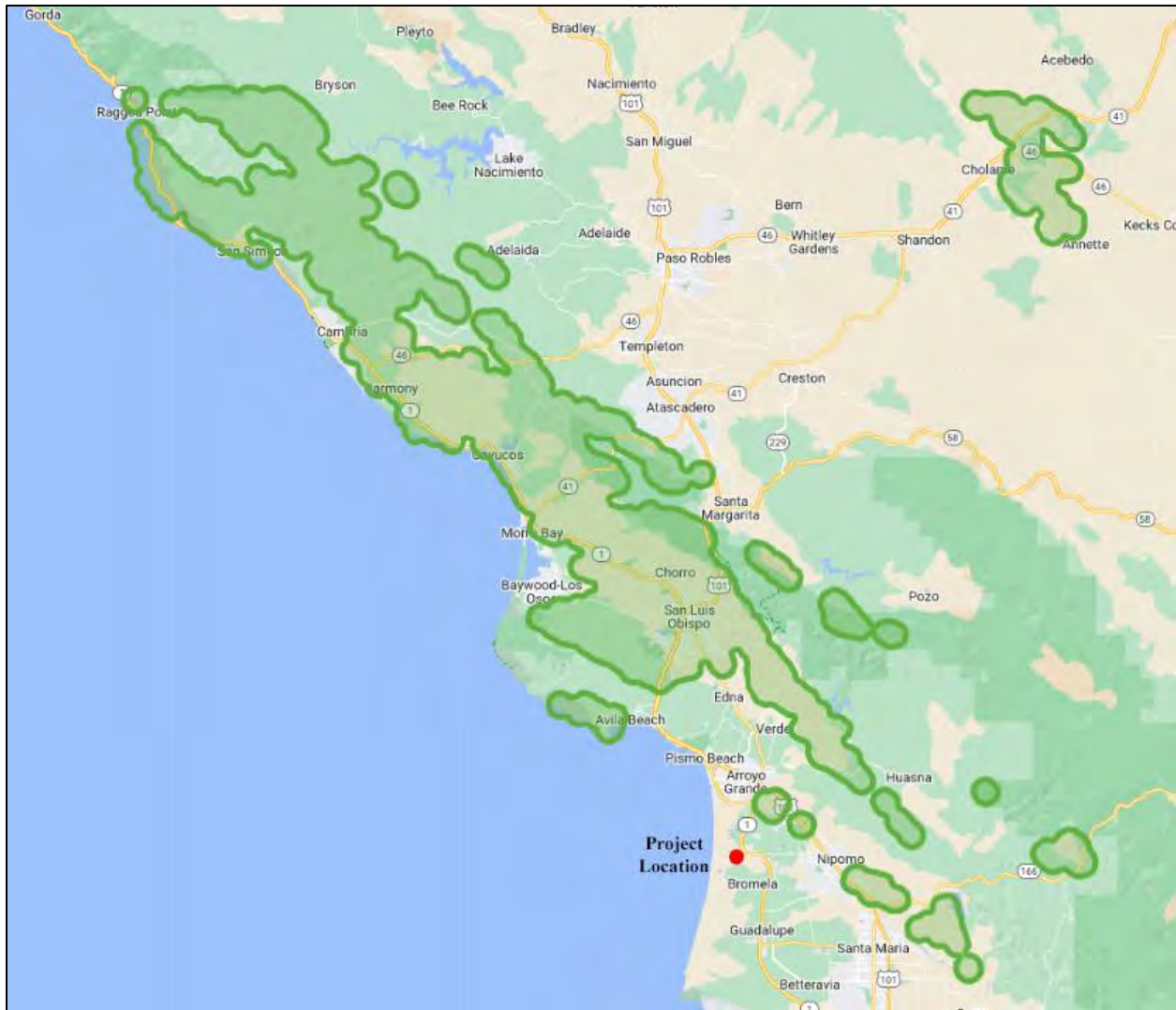
Serpentine rock is found in many regions of the County, including coastal areas, as far inland as Paso Robles, and the extreme eastern area along the San Andreas Fault. Figure 4.3-4 shows areas subject to the naturally occurring asbestos ATCM requirements. The Project site is not within one of these general areas.

Fugitive Dust

The Project is located in an area (the Nipomo Mesa) that has historically been subject to poor air quality conditions due to high northwesterly winds and blowing sand and dust across the Oceano dunes (SLOCAPCD 2023b). The SLOCAPCD has been investigating the source of the high particulate matter concentrations on the Nipomo Mesa for more than the past decade in cooperation with other agencies. A number of studies have been conducted addressing the issues of dust from the ODSVRA, in cooperation with the SLOCAPCD and other entities, as well as planning documents for the dunes areas, including:

- 2023 Study by Desert Research Institute and SLOCAPCD staff titled "Quantifying the Source Attribution of PM₁₀ Measured Downwind of the Oceano Dunes State Vehicular Recreation Area;
- 2023: The Scientific Advisory Group (SAG) has prepared a "State of the Science" Report, which summarizes and synthesizes all of the various reports, studies, and other publicly available materials relevant to the Oceano Dunes dust issue and mitigation measures. This report was prepared independently by the SAG;
- 2022/2021: State Parks Draft Annual Report and Work Plan in 2021. The report was subsequently reviewed by the SLOCAPCD and the Scientific Advisory Group (SAG). A second draft was submitted in September 2022;
- 2022 paper titled "*The role of off highway vehicle activity in augmenting dust emissions at the Oceano Dunes State Vehicular Recreation Area, Oceano CA*" has been published by Atmospheric Environment;
- 2022: The SLOCAPCD and the Scientific Advisory Group (SAG) issued a response to the State Parks OHV Division's funded document "Scripps/UCSD Interim Report 2021," by Dr. Lynn Russell;
- 2020: The SLOCAPCD issued conditional approval of 90 acres of dust control to be implemented by California Department of Parks and Recreation as part of their 2020 Annual Report and Work Plan in response to Stipulated Order of Abatement #17-01;
- 2020/2019: State Parks completed the first draft of their Annual Report & Work Plan (ARWP). State Parks provided revisions to the drafts of the ARWP;
- 2020: State Parks Draft Public Works Plan issued;
- 2019: State Parks submitted a Particulate Matter Reduction Plan;

Figure 4.3-4 Areas Requiring Asbestos ATCM Geological Analysis and Requirements



Source: SLOCAPCD 2023c

- 2018: SLOCAPCD stipulation order 17-01 with regard to alleged nuisances defined pursuant to District Rule 402 and California Health and Safety Code section 41700, beginning on or about May 20, 2010, and on certain occasions thereafter, as a result of particulate matter emissions from the Oceano Dunes State Vehicular Recreation Area (“ODSVRA”);
- 2013: South County Community Monitoring Project report issued;
- 2013: State Parks Dunes Monitoring Study conducted;
- 2011: State parks Dust Mitigation Study conducted;
- 2010: South County Phase 2 Particulate Matter Study;
- 2007: State Parks Dunes Vegetation Study; and
- 2005: South County Phase 1 Particulate Matter Study.

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As the ODSVRA is upwind of the Nipomo Mesa and the SMR, the studies generally indicate that the dunes area is a major source of particulates on the Nipomo Mesa. According to the 2023 Scientific Advisory Group report (SAG 2023);

In the absence of human disturbance, natural forces will shape coastal sand sheets into sand dunes exhibiting characteristic patterns of dune geomorphology, vegetation cover, and rippled sand surface with particle size distribution and composition patterns that reflect the local geological and meteorological conditions... Intensive human use of coastal dune areas, including vehicle activity and camping, may disrupt the naturally occurring features of coastal dunes. For example, the mechanical action of vehicle tires can turn over the surface layer of dunes, potentially increasing saltation and dust emissivity by bringing fine particles to the surface (i.e., changing particle size distribution) or breaking up the surfaces themselves. In addition, intensive use can inhibit the growth of new vegetation or even destroy existing vegetation. All these factors will lead to changes in the factors that govern dust emissivity from dunes.

... [Studies for the period when the ODSVRA was closed due to COVID] indicated that the removal of vehicles led to a substantial decline in airborne PM₁₀.

... [Studies also] showed that there has been a reduction in the [some characteristics in dunes] over time as an increasing number of dust mitigation treatments have been installed, suggesting an overall reduction in PM₁₀ emissions...

Despite this strong evidence for the role of vehicles in enhancing PM₁₀ emissions and concentrations at the ODSVRA, and the effects of dust mitigation treatments toward reducing such emissions, the specific mechanisms by which vehicle activity causes such an enhancement in PM₁₀ emissions remain poorly understood and should be the subject of future study in order to understand what emissions are attributable to vehicle activity as opposed to those from other sources.

The SLOCAPCD Annual Report (SLOCAPCD 2023b) also indicates that:

Windblown dust from the ODSVRA remains an air quality challenge affecting South San Luis Obispo County. For more than a decade, the APCD has been engaged with the California Department of Parks and Recreation (State Parks) in an effort to resolve the issue and improve the region's air quality; these actions are chronicled on the APCD's website.⁶ From 2011 to 2022, the annual number of exceedances of the California PM₁₀ standard at CDF varied from as few as 38 to as many as 97, with most related to ODSVRA dust...

In order to assess the effectiveness of mitigation implemented since 2017, the report indicates:

Applying the methodology to the 2022 data yields a statistically significant 31.6% improvement in event-day PM₁₀ at CDF compared to the baseline year of 2017 ...

... the result for CDF for 2022—a 31.6% improvement relative to 2017—is about the same as the result for the previous year, namely the 33.5% improvement for 2021. While 2022 saw no incremental improvement over 2021, this is consistent with most of new mitigation acreage being too far south to influence CDF...

...the annual number of [Rule 1001 attributable to the ODSVRA] violations has generally decreased since the Oso Flaco monitor was established.

The SLOCAPCD adopted Rule 1001 in 2011 and revised in 2016, "Fugitive Dust Emissions Standards, Limitations and Prohibitions" to address fugitive dust from offroad vehicle activity on the dunes. Annual violations attributable to the ODSVRA range from about 30 to 70 per year. (SLOCAPCD 2023b).

The Project is in an area that is impacted by periods of high particulate matter concentrations during blowing dust events. To keep the public informed of periods of deteriorating air quality, the SLOCAPCD provides a daily air quality forecast for the County, which is partitioned into nine air quality forecast zones. Air quality forecast for a six-day period is provided for each zone. In the Nipomo Mesa area, there are four forecast zones as shown in the map Figure 4.3-5. The zones are named for the monitoring stations that are located within each zone; Arroyo Grande-CDF, MESA2, NRP, and SLO.

The darker colors in Figure 4.3-5 signify the typical location of the dust plume and the greater impacts during a typical blowing dust event. The public can experience adverse health impacts in areas with blowing dust. This Project is in, or may affect, the Arroyo Grande-CDF, Mesa 2, or NRP zones. Areas within the zones can experience annual exceedances of particulate ranging between 45–95 (zone Arroyo Grande-CDF), 30-60 (zone Mesa2) and 0–20 (zone NRP).

The blowing dust events are typically most frequent in the spring; however, dust events can occur at any time of the year. As shown in Figure 4.3-5, the greatest impacts occur when the strong winds blow from the northwest which direct the dust plume inland over the Nipomo Mesa where it can impact residents. Residents can plan to avoid peak dust impacts by being aware of typical dust plume characteristics. A typical event tends to start around noon and ends by the early evening, with peak impacts between 1:00 p.m. to 5:00 p.m. The strongest events can result in blowing dust from 9:00 a.m. to 7:00 p.m., with peak impacts between noon and 6:00 p.m. Outdoor activities and exercise should be planned in late evenings and mornings due to lower particulate matter concentrations.

Efforts to reduce particulate matter on the Nipomo Mesa are underway through Stipulated Abatement Order 17-01 entered between the SLOCAPCD and California Department of Parks and Recreation Off-Highway Motor Vehicle Recreation Division (State Parks). The Order was approved by the SLOCAPCD Hearing Board on April 30, 2018. This stipulated abatement order calls for specific actions to ensure significant reductions in particulate matter are achieved on the Nipomo Mesa over a five-year period.

Figure 4.3-5 Nipomo Fugitive Dust Areas



Source: SLOCAPCD 2023b

4.3.1.3 Odors

The release of material that contains even small amounts of sulfur compounds (hydrogen sulfide [H₂S]) or hydrocarbons produces an odor. Several compounds associated with the oil and gas industry can produce nuisance odors. Sulfur compounds, found in oil and gas, have very low odor threshold levels. For instance, H₂S can be detected by humans at concentrations from 0.5 parts per billion (ppb) (detected by two percent of the population) to 40 ppb, qualified as annoying by 50 percent of the population. Above these levels, H₂S would be detected by most people. The Occupational Safety and Health Administration limits occupational exposure to H₂S at 20 ppm with a 50-ppm peak over 10 minutes (29 Code of Federal Regulations [CFR] 1910.1000 Z-2 Table). Inhaling 100 ppm can be lethal according to the Emergency Response Planning Guideline (AIHA 2008).

Health impacts of H₂S are generally at higher concentrations than those which first produce odors. The California Office of Environmental Health Hazard Assessment (OEHHA) reference exposure levels for H₂S indicate that acute impacts of H₂S are experienced at levels of 30 ppb (for a 1-hour exposure).

Many volatile compounds found in oil and gas (e.g., pentane, n-pentane, hexane, ethane, and longer chain hydrocarbons) typically have petroleum or gasoline odors with varying odor

thresholds. The most odiferous of these compounds are hexane, which has an odor threshold of between 68 and 248 ppm, and pentane, which has an odor threshold of 2 ppm (NJDPH 2007).

4.3.1.4 Valley Fever

Valley fever is caused by *Coccidioides*, a fungus that lives in soil in the southwestern United States and parts of Mexico, Central America, and South America. Inhaling the airborne fungal spores can cause an infection called coccidioidomycosis, which is also known as “cocci” or “Valley fever.” Most people who are exposed to the fungus do not get sick, but some people develop flu-like symptoms that may last for weeks to months. In a very small proportion of people who get Valley fever, the infection can spread from the lungs to the rest of the body and cause more severe conditions, such as meningitis or even death. Valley fever cannot spread from person to person (CDC 2023).

Most cases of Valley fever in the US occur in people who live in or have traveled to the southwestern United States, especially Arizona and California. The coastal areas of California are considered "suspected endemic" (CDC 2023).

Although Valley fever concerns are not addressed by the SLOCAPCD, they may be a concern for projects that generate a lot of fugitive dust, thereby potentially increasing the incidence of Valley fever in workers and nearby residents if proper dust control methods are not followed. As fugitive dust is addressed in this section of the EIR, Valley fever issues have also been addressed here.

4.3.1.5 Historical Emissions from Refinery Operations

Historical SMR activities and operations have produced impacts associated with criteria pollutant emissions, emissions of GHGs (see Section 4.8), and emissions of toxic materials.

Santa Maria Refinery Criteria Pollutant Emissions

Historical operations at the SMR produced criteria emissions associated with a range of equipment types and operations, including:

- Combustion sources, including diesel pumps and compressors, heaters, boiler, generators, incinerators and flares (emergency use only);
- Fugitive emissions from pumps, valves, and connections;
- Fugitive emissions from hydrocarbon tanks;
- Coke handling and storage; and
- Other miscellaneous sources, including solvent use, oily water treatment, cooling towers, and sulfur pit vents.

The SMR reports emissions from these sources to the SLOCAPCD annually. Table 4.3.3 summarizes the emissions for these sources for the operations of the SMR for the last five years prior to the application submittal (see Chapter 2.0, Project Description).

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Table 4.3.3 SMR Historical Emissions Summary

Data Year	ROG	NO _x	ROG + NO _x	CO	SO ₂	PM
tons/year						
2017	22.1	59.3	81.4	7.2	64.7	25.0
2018	28.5	44.9	73.4	6.5	67.9	23.7
2019	27.6	51.1	78.7	6.1	80.3	24.2
2020	26.6	42.7	69.3	4.7	52.9	22.7
2021	25.8	40.6	66.4	4.3	43.0	21.0
Average	26.1	47.7	73.8	5.8	61.8	23.3
Average tons per quarter	6.5	11.9	18.5	1.4	15.4	5.8
Average pounds per day	143.1	261.5	404.6	31.6	338.4	127.8

Source: SLOCAPCD Facility Corporate Emission Inventory Report (CEIR) Data. Note data submitted to the SLOCAPCD did not include PM2.5, only PM.

Off-site criteria emissions include the emissions from vehicles used to transport employees and from vehicles used to transport coke, sulfur, and other materials delivered to or exported by the SMR. These emissions include:

- Emissions from trucks and trains used to transport coke;
- Emissions from trucks used to transport sulfur;
- Emissions from trucks associated with normal materials shipments and employee duties; and
- Emissions from employee vehicles.

Table 4.3.4 shows estimated emissions from off-site vehicle trips associated with direct SMR operations, including trucks and rail trips within California.

Table 4.3.4 SMR Historical Off-site/On-site (truck and rail) Emissions Summary

Data Year	ROG	NO _x	ROG + NO _x	CO	SO ₂	PM ₁₀	DPM	PM _{2.5}
tons/year								
2017	0.5	34.1	34.6	1.7	0.0	28.8	0.24	0.2
2018	0.4	29.8	30.2	1.5	0.0	25.2	0.21	0.2
2019	0.4	29.0	29.5	1.5	0.0	24.5	0.21	0.2
2020	0.5	33.9	34.3	1.7	0.0	28.6	0.24	0.2
2021	0.3	24.4	24.7	1.2	0.0	20.6	0.17	0.2
Average	0.4	30.2	30.7	1.5	0.0	25.5	0.21	0.2
Average tons per quarter	0.1	7.6	7.7	0.4	0.01	6.38	0.05	0.1
Average pounds per day	2.6	178.5	181.1	9.8	0.3	146.7	1.32	1.3
Average tons per quarter: ON SITE	0.01	0.34	0.35	0.04	0.00	0.12	0.003	0.002

Table 4.3.4 SMR Historical Off-site/On-site (truck and rail) Emissions Summary

Data Year	ROG	NO _x	ROG + NO _x	CO	SO ₂	PM ₁₀	DPM	PM _{2.5}
tons/year								
Average pounds per day: ON SITE	0.34	11.75	12.09	1.99	0.01	3.01	0.15	0.15

Note: DPM = diesel particulate matter.

Source: Phillips 66 Application estimates of truck and rail emissions within the County with modification by EIR preparer. Rail emissions assume transport south towards the Port of Los Angeles.

SMR Toxic Emissions

Toxic emissions are associated with operations at the SMR as well as emissions from diesel trucks operating along area roadways. SMR emissions of toxic materials are estimated by the SMR and submitted to the SLOCAPCD along with modeling of cancer, acute, and chronic impacts at locations near the SMR. These estimates are required by regulation, particularly the AB 2588 requirements.

A toxic emission inventory was developed for the SMR in 2004, which included only stationary sources at the SMR and also included operations such as the calciner, which have since been shut down. The 2004 inventory was used in a 2007 health risk assessment (HRA) prepared by Phillips 66 (previously ConocoPhillips, ConocoPhillips 2011) which utilized CARB's Hotspots Analysis and Reporting Program model to assess the cancer, chronic, and acute health risk impacts.

The primary cause of health risk impacts at the SMR in 2004 was determined to be the diesel-cooling water pump. In 2005, a diesel oxidation catalyst (DOC) was reportedly installed on the diesel cooling water pump to reduce diesel particulate emissions by 30 percent. The installation of the DOC and shutdown of calcining operations resulted in a reduction in health risk levels to 15 cancer cases per one million at the SMR boundary (ConocoPhillips 2007).

As documented in the Phillips 66 Rail Spur Project EIR (County 2015, not certified as the project was not approved), since 2004, several additional changes at the SMR additionally reduced toxic emissions, including shutting down the calciner, installation of various DOC and diesel particulate filters (DPF) on several diesel engines, and reductions in fugitive emissions with a more rigorous fugitive emissions control program. Additionally, the SLOCAPCD reported that the diesel cooling water pump has been replaced by a natural gas engine with catalyst, which has reduced risk levels by at least 80 percent. This would reduce cancer health risk levels to approximately five cases per one million. The estimation of cancer risk levels is based upon a person being exposed to the air toxin at one location for 30 years.

As part of the Phillips 66 Throughput Increase EIR (County 2012), the Applicant prepared and submitted a revised HRA utilizing 2010 emission data and assumptions about the operating characteristics of the SMR if it were to operate at the increased throughput levels. The revised HRA indicated that the highest cancer risks at the facility fence line would be 2.1 in a million, and that chronic and acute risks would be 0.02 and 0.38, respectively. These levels are less than the health risk thresholds of 10 in one million (for cancer) and 1.0 HI for acute and chronic impacts and would be less than significant. The main driver in the 2010 HRA was diesel particulate emissions associated with diesel engines at the SMR.

The Phillips 66 Throughput Project EIR also assessed the health risks associated with truck traffic to and from the SMR. Health risks were estimated at five to six cases per million along Highway 1 near Willow Road. Since the Throughput EIR was prepared, the Willow Road/Highway 101 interchange has been completed and the SMR traffic utilized that route instead of the Highway 1 route to the south. This would shift the health risks associated with the SMR truck traffic to along Willow Road instead of Highway 1 south of Willow Road.

Since the 2012 analysis, the OEHHA which produces the guidelines for conducting HRAs and the HARP model, released a report in 2015 which updated health risk exposure assessment methods related to HRAs to account for the increased sensitivity and breathing rates of children and younger adults. The report defined updated breathing rates on a per kilogram basis for children which caused an increase in health risk for children by over 2.7 times as much as the previous model. The OEHHA report also added an age sensitivity factor to account for children ranging in age from between three and 10. The report also adjusted the "fraction of time at home" value to be age dependent, although for children whose school is located within the one in a million risk level from a facility are assumed to be at home 100 percent of the time (OEHHA 2015). In combination, these adjustments caused the cancer risk estimates to increase substantially. A finalized HRA Guidance Document was released in early 2015 (OEHHA 2015) along with a revised version of the HARP modeling program (HARP2) which was used in an updated analysis in the Phillips 66 Rail Spur FEIR (County 2015). The OEHHA adjustments do not affect the acute and chronic risk assessments.

The Phillips 66 Rail Spur FEIR utilized the updated approach in 2015 and estimated the cancer risk to be 18.1 in a million at the nearest sensitive receptor (assuming a 30-year exposure duration, as per OEHHA Guidelines, and a Tier 1 assessment assuming all children under 16 years of age are at home 100 percent of the time as Lopez Continuation High School and the Mesa Middle School are located within the proposed Project one in a million cancer contour), which is above the SLOCAPCD threshold. This receptor is affected primarily by trucks entering and leaving the SMR. The SMR "facility only" cancer risk was estimated to be 0.6 in a million (County 2015).

SMR Historical Odor Emissions and Issues

Several historical activities at the SMR, including sulfur handling, combustion of sulfurous gases, and fugitive emissions from leaking components, could produce odors in the surrounding residential and industrial areas. The SMR was under an Abatement Order from 1989 to 1993 from the SLOCAPCD. As a result of that order, plant and process modifications were made to attempt to reduce emissions and odors. A fugitive emissions program implemented in 2007 reduced emissions from leaking components. The 2007 shutdown of the Calciner Plant also reduced the combustion and emissions of sulfurous gases.

The SLOCAPCD investigates and compiles odor complaints for the SMR. As indicated in the Phillips 66 Rail Spur Final EIR (County 2015), the SLOCAPCD historically recorded approximately 7.5 complaints per year prior to 2014. Records obtained from the SLOCAPCD from 2014 up until 2022 indicate an average of 19 odor complaints per year. Many of these are non-descript (no specific cause identified) and were not specifically identified as associated with a problem at the SMR, but SLOCAPCD records indicate meteorological conditions and odor type that could potentially indicate the SMR facility. In addition, the SMR has received, on average

since 2014, 0.7 SLOCAPCD notices of violation per year, for issues ranging from failure to submit appropriate plans, emissions levels that exceed permit values and fence line monitoring issues.

4.3.2 Regulatory Setting

Federal, state, and local agencies have established standards and regulations that govern the Project. The following sections summarize the regulatory setting for air quality that applies to development within the local air basin.

4.3.2.1 Federal Regulations

The Clean Air Act of 1970 directs attainment and maintenance of the National Ambient Air Quality Standards (NAAQS). The 1990 Amendments to this Act included new provisions that address air pollutant emissions that affect local, regional, and global air quality. The United States Environmental Protection Agency (U.S. EPA) is responsible for implementing the Clean Air Act and establishing the NAAQS for criteria pollutants. The U.S. EPA periodically adopts revisions to the Ozone and Particulate Matter Standards in the Clean Air Act. These revisions included 8-hour ozone standards and particulate matter standards for PM_{2.5}.

Air Quality Management Plan

Under the provisions of the Clean Air Act, the U.S. EPA requires each state that has not attained the NAAQS to prepare an Air Quality Management Plan, which is a separate local plan detailing how to meet the federal standards. The governor of each state designates a local agency to prepare these plans, which are then incorporated into a State Implementation Plan.

Emission Standards for Non-Road Diesel Engines

To reduce emissions from non-road diesel equipment, the U.S. EPA established a series of increasingly strict emission standards for new non-road diesel engines. Tier 1 standards were phased in from 1996 to 2000 (year of manufacture), depending on the engine horsepower category. Tier 2 standards were phased in from 2001 to 2006. Tier 3 standards were phased in from 2006 to 2008. Tier 4 standards were phased in from 2008 until 2015, and generally apply to all model years after 2014. These standards apply to construction equipment.

Federal Regulation of Locomotives

Section 213 of the Federal Clean Air Act directs U.S. EPA to adopt emissions standards applicable to new locomotives and new engines used in locomotives. U.S. EPA promulgated the regulation in 1998 (Title 40 Part 1033) with an update in 2008. The regulation establishes emission standards consisting of several tiers (Tier 0 through 4), applicable to remanufactured and new locomotives as specified in the Final EPA National Locomotive Rule, with the tiers being phased in over a number of years. Locomotive engines are required to meet the specific Tier level when they are either originally manufactured or are remanufactured. The Tier level is a function of the locomotive original manufacture date. The 2008 Revised regulation Tier levels are labeled a "+" (such as Tier 0+) to indicate the updated 2008 levels. For example, for a locomotive originally manufactured in 1995 and remanufactured in 2006, it would have to meet the Tier 0 standard. A locomotive originally manufactured in 2003 and remanufactured in 2011 would have to meet the Tier 1+ standard.

4.3.2.2 State Regulations

California Air Resources Board

The CARB has jurisdiction over all air pollutant sources in the state; it delegated responsibility for stationary sources to local air districts and retained authority over emissions from mobile sources. The County's local air district is the SLOCAPCD. The CARB established the California Ambient Air Quality Standards (CAAQS). Comparing the criteria pollutant concentrations in ambient air to the CAAQS determines state attainment status for criteria pollutants in a given region. The CARB, in partnership with local California air quality management districts, developed a pollutant-monitoring network to aid attainment of CAAQS. The network consists of numerous monitoring stations throughout California that monitor and report various pollutants' concentrations in ambient air.

California Clean Air Act

The California Clear Air Act (CCAA) went into effect on January 1, 1989, and was amended in 1992 (California Health and Safety Code, Division 26). The CCAA mandates achieving the health-based CAAQS at the earliest practical date.

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

The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) requires an inventory of air toxics emissions from individual facilities, an assessment of health risk, and notification of potential significant health risk (California Health & Safety Code, Division 26, Part 6).

California Diesel Fuel and Diesel Risk Reduction Plan Regulations

With the California Diesel Fuel Regulations, the CARB set sulfur limitations for diesel fuel sold in California for use in on-road and off-road motor vehicles. The rule initially excluded harbor craft and intrastate locomotives, but it later included them with a 2004 rule amendment. Under this rule, diesel fuel used in motor vehicles, except harbor craft and intrastate locomotives, has been limited to 500 ppm sulfur since 1993. This sulfur limit was later reduced to 15 ppm, effective September 1, 2006.

The CARB In-Use Off-Road Diesel Vehicle Regulation applies to in-use off-road diesel engines greater than 25 hp used in construction, mining, airport ground support, logging, and industrial equipment such as forklifts. The rule was amended several times in 2009 and 2010. The Off-Road regulation:

- Imposes limits on idling, requires a written idling policy, and requires a disclosure when selling vehicles;
- Requires all vehicles to be reported to CARB (using the Diesel Off-Road Online Reporting System, DOORS) and labeled;
- Restricts the adding of older vehicles into fleets; and
- Requires fleets to reduce their emissions by retiring, replacing, or repowering older engines, or installing Verified Diesel Emission Control Strategies (VDECS) (i.e., exhaust retrofits).

The requirements and compliance dates of the Off-Road regulation vary by fleet size.

California Asbestos Regulations

California Title 8 section 1529 addresses asbestos exposure in all construction work and includes items such as demolition and salvage, spill emergency procedures, transportation and storage, exposure assessments and monitoring, compliance methods, respiratory protection, and protective clothing.

California Solid Waste Handling Regulations

Title 14, section 17360 addresses nonhazardous petroleum contaminated soil operations and facilities regulatory requirements, including soil transfer operations, disposal facilities, etc.

CARB Portable Equipment Registration Program (PERP) 17 CCR 2450 et seq.

The Portable Equipment Registration Program allows owners or operators of portable engines and associated equipment 50 horsepower or greater, commonly used for construction or farming to register their units under a statewide portable program that allows them to operate their equipment throughout California without having to obtain individual permits from local air districts.

4.3.2.3 Local Regulations

Local regulations and guidance applicable to the Project are discussed below.

San Luis Obispo County Air Pollution Control District

In 1967, California passed legislation that placed the primary responsibility for controlling air pollution at the local level. In April 1970, the San Luis Obispo County Board of Supervisors formed the SLOCAPCD, which included a decision-making body known as the SLOCAPCD Board of Directors. Over the past 30+ years, the SLOCAPCD has adopted and implemented nearly 100 rules and currently has over 1,000 individual permits and agricultural registrations. In 1994, revisions to state law changed the composition of the Board of Directors to include all five County supervisors plus one city council member from each of the seven incorporated cities.

As part of the CCAA, the SLOCAPCD is required to develop a plan to achieve and maintain the state ozone standard by the earliest practicable date. To this end, the SLOCAPCD developed the Clean Air Plan (CAP). The latest CAP is dated 2001, adopted by the SLOCAPCD at a hearing on March 26, 2002, which addresses state requirements by updating the 1991 CAP (SLOCAPCD 2001). The 1991 CAP, adopted by the SLOCAPCD in 1992, contained a comprehensive set of control measures designed to reduce ozone precursor emissions from a wide variety of stationary and mobile sources. The 2001 CAP, similar to the 1998 CAP, is mainly a continuation of the 1995 CAP and proposed no new control measures.

Control measures proposed in the CAP include vapor recovery, solvent content reduction, improved fuel combustion, fuel switching or electrification, chemical or catalytic reduction, reduced vehicle use, and new source reviews.

The SLOCAPCD also issues annual reports that address issues such as air quality summaries for each year as well as air quality trends. The most recent air quality annual report is 2022 (SLOCAPCD 2023b).

The SLOCAPCD developed several rules that are potentially applicable to the Project, including:

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- Rule 204 – Requirements (new source review);
- Rule 219 – Toxics new source review;
- Rule 401 – Visible emissions;
- Rule 402 – Nuisance;
- Rule 403 – Particulate matter emission standards;
- Rule 405 – Nitrogen oxides emission standards, limitations, and prohibitions;
- Rule 406 – Carbon monoxide emission standards and limitations;
- Rule 407 – Organic material emission standards;
- Rule 412 – Airborne toxic control measures;
- Rule 417 – Control of fugitive emissions of volatile organic compounds;
- Rule 419 – Petroleum pits, ponds, sumps, well cellars and wastewater separators;
- Rule 420 – Cutback asphalt paving materials;
- Rule 425 – Storage of volatile organic compounds;
- Rule 430 – Control of oxides of nitrogen from industrial, institutional, commercial boilers, steam generators, and process heaters;
- Rule 431 – Stationary internal combustion engines; and
- Rule 433 – Architectural coatings.

San Luis Obispo County General Plan Conservation and Open Space Element

The Conservation and Open Space Element (COSE) is a comprehensive long-range planning document that sets forth goals, policies, and actions to address the conservation and preservation of public services, air quality, vegetation and wildlife, mineral resources, and visual resources, historic and archaeological resources, and energy (County 2010). Applicable air quality policies include, but are not limited to:

- Policy AQ 1.2 Reduce vehicle miles traveled. Require projects subject to discretionary review to minimize additional vehicle travel;
- Policy AQ 1.5 Transportation efficiency. Improve the operating efficiency of the transportation system by reducing vehicle travel demand and expanding opportunities for multi-modal travel;
- Policy AQ 1.8 Support SLO Regional Rideshare. Support San Luis Obispo Regional Rideshare's Transportation Choices Programs that promote transportation alternatives by providing financial or other incentives to employers, employees, and commuters who develop Trip Reduction Plans and implement commute options;
- Policy AQ 3.2 Attain air quality standards. Attain or exceed federal or state ambient air quality standards (the more stringent if not the same) for measured criteria pollutants;
- Policy AQ 3.3 Avoid air pollution increases. Avoid a net increase in criteria air pollutant emissions in planning areas certified as Level of Severity II or III for Air Quality by the County's Resource Management System (RMS);

- Policy AQ 3.4 Toxic exposure. Minimize public exposure to toxic air contaminants, ozone, particulate matter, sulfur dioxide, carbon monoxide, nitrogen oxides, and lead;
- Policy AQ 3.7 Reduce vehicle idling. Encourage the reduction of heavy-vehicle idling throughout the county, particularly near schools, hospitals, senior care facilities, and areas prone to concentrations of people, including residential areas; and
- Policy AQ 3.8 Reduce dust emissions. Reduce PM₁₀ and PM_{2.5} emissions from unpaved and paved County roads to the maximum extent feasible.

San Luis Obispo Council of Governments 2019 Regional Transportation Plan and Sustainable Communities Strategy

The 2019 Regional Transportation Plan (RTP), which was adopted by the San Luis Obispo Council of Governments (SLOCOG) Board in June 2019, includes the region's Sustainable Communities Strategy (SCS) and outlines how the region will meet or exceed its GHG reduction targets by creating more compact, walkable, bike-friendly, and transit-oriented communities; preserving important habitat and agricultural areas; and promoting a variety of transportation demand management and system management tools and techniques to maximize the efficiency of the transportation network.

4.3.3 Thresholds of Significance

According to the SLOCAPCD CEQA Air Quality Handbook (SLOCAPCD 2023a), project impacts may be considered significant depending on the conclusion of the air quality analysis based on the following:

- a. Comparison of predicted ambient criteria pollutant concentrations resulting from the project to state and federal health standards, when applicable.
- b. Comparison of calculated project emissions to SLOCAPCD emission thresholds (both construction and operations).
- c. The evaluation of special conditions, including toxic emissions, which apply to certain projects.
- d. Consistency with the most recent Clean Air Plan for San Luis Obispo County.

The SLOCAPCD CEQA Air Quality Handbook defines thresholds for long-term operational emissions and short-term construction related emissions.

4.3.3.1 Comparison to State and Federal Health Standards

As per the SLOCAPCD CEQA Air Quality Handbook (SLOCAPCD 2023a) state and federal ambient air quality standards are established to protect public health and welfare from the adverse impacts of air pollution. Industrial and large commercial projects are sometimes required to perform air quality dispersion modeling if the SLOCAPCD determines that project emissions may have the potential to cause an exceedance of these standards. In such cases, models are used to

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calculate the potential ground-level pollutant concentrations resulting from the project. The predicted pollutant levels are then compared to the applicable state and federal standards. A project is considered to have a significant impact if its emissions are predicted to cause or contribute to a violation of any ambient air quality standard.

Generally, the more detailed air quality modeling to confirm compliance with threshold a) above is conducted if the threshold screening levels in threshold b) are substantially exceeded.

4.3.3.2 Operational Thresholds

Table 4.3.5 shows the threshold criteria established by the SLOCAPCD to determine a project's significance and appropriate mitigation level for long-term operational emissions (i.e., vehicular and area source emissions).

Table 4.3.5 SLOCAPCD Thresholds of Significance for Operational Emissions Impacts

Pollutant	Daily	Annual
ROG + NO _x	25 pounds	25 tons
Diesel Particulate Matter (DPM)	1.25 pounds	-
Fugitive Dust Particulate Matter (PM ₁₀)	25 pounds	25 tons
CO	550 pounds	-

Source: SLOCAPCD 2023a

Emissions that equal or exceed the designated threshold levels are considered potentially significant and shall be mitigated. For projects requiring air quality mitigation, the SLOCAPCD has developed a list of both standard and discretionary mitigation strategies tailored to the type of project proposed: residential, commercial, or industrial.

Generally, the SLOCAPCD utilizes thresholds to ensure that ambient air quality standards are not exceeded. However, industrial and large commercial projects that have high emissions above the thresholds and are in close proximity to receptors are sometimes required to perform air quality dispersion modeling if the SLOCAPCD determines that project emissions may have the potential to cause an exceedance of these standards.

Projects that exceed the SLOCAPCD's operational phase 25 ton/year threshold may be required to complete an Activity Management Plan (AMP). Applicants must work with the SLOCAPCD on the development of the AMP and the critical elements necessary for each individual project.

4.3.3.3 Construction Thresholds

Use of heavy equipment and earth-moving operations during Project construction generates fugitive dust and combustion emissions that may have substantial temporary impacts on local air quality. Fugitive dust emissions would result from land clearing, demolition, ground excavation, cut and fill operations, and equipment traffic over temporary roads. Combustion emissions, such as NO_x and ROG, are most significant when using diesel-fueled equipment, such as loaders,

dozers, haul trucks, compressors, and generators. Table 4.3.6 lists the SLOCAPCD construction thresholds.

Table 4.3.6 SLOCAPCD Thresholds of Significance for Construction Emissions Impacts

Pollutant	Daily	Quarterly Tier 1	Quarterly Tier 2
ROG + NO _x	137 pounds	2.5 tons	6.3 tons
Diesel Particulate Matter (DPM)	7 pounds	0.13 tons	0.32 tons
Fugitive Dust Particulate Matter (PM ₁₀)	-	2.5 tons	-

Source: SLOCAPCD 2012 and 2017

For construction projects, an exceedance of the 2.5 ton/quarter ROG + NO_x threshold requires Standard Mitigation Measures and Best Available Control Technology (BACT) for construction equipment. Off-site mitigation may be required if feasible mitigation measures are not implemented, or if no mitigation measures are feasible for the Project. For construction projects exceeding the 6.3 ton/quarter threshold, Standard Mitigation Measures, BACT, implementation of a Construction Activity Management Plan (CAMP), and off-site mitigation are required.

4.3.3.4 Special Conditions

Special conditions are defined in the 2012 SLOCAPCD CEQA Air Quality Handbook and associated 2017 Clarification Memo for construction as the following:

- Sensitive receptors: the proximity of sensitive individuals (receptors) to a construction site constitutes a special condition, and the handbook indicates that construction sites within 1,000 feet of sensitive receptors may require a more aggressive implementation of mitigation measures;
- Diesel idling restrictions: limits on diesel idling within 1,000 feet of sensitive receptors;
- Naturally Occurring Asbestos (NOA): requires the development of an Asbestos Dust Mitigation Plan for construction within areas that may contain NOA;
- Asbestos Material in Demolition: removal of materials that may contain asbestos shall have additional handling requirements;
- Development burning: prohibition on burning; and
- Special permits for some equipment.

Some of these construction-related special conditions are currently managed by federal, state, or local rules and regulations, such as diesel idling, handling of asbestos materials, etc.

For operational phases of the Project, special conditions described in the Handbook include:

- The potential to emit toxic pollutants (see discussion below);
- Emissions from agricultural operations;

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- Fugitive dust emissions; and
- Nuisance Impacts (odor): if a project has the potential to cause an odor or other nuisance problem which could impact a considerable number of people, then it may be considered significant.

4.3.3.5 Air Toxic Health Risk Thresholds

SLOCAPCD Rule 219, Toxics New Source Review, defines acceptable levels of health risk for regulated sources. Rule 219 identifies significance thresholds as follows:

The facility-wide risk from any source shall not exceed ten (10.0) in a million for cancer or a health hazard index (HI) of one (1.0) for either chronic non-cancer or acute health impacts, unless that facility is included in the Air Toxics Hot Spots program by the District, and the source simultaneously develops and implements an APCO-approved airborne toxic risk reduction audit and plan, as codified in Chapter 6, Facility Toxic Air Contaminant Risk Reduction Audit and Plan, of the California Health and Safety Code.

These thresholds are utilized to evaluate facility-wide risk following the implementation of Best Available Control Technology for Toxics (TBACT), which could include the use of cleaner diesel engines and implementing California verified diesel emission control strategies, such as the installation of catalysts. As per SLOCAPCD Rule 219, impacts are assessed at the “maximum exposed individual and the nearest receptor” with a receptor being a residence, school, health-care facility, or off-site worksite. Acute impacts are based on the off-site location where any member of the public has reasonable access (defined in this EIR as the SMR boundary). As per SLOCAPCD and the California Air Pollution Control Officers Association (CAPCOA) Guidance (CAPCOA 2009), for CEQA, the thresholds apply to all facilities including vehicle emissions, and road related emissions. Construction impacts are not addressed in the CAPCOA Guidelines; however, “lead agencies under CEQA are required to identify health risk from construction activities or projects and mitigate if they are deemed significant” (CAPCOA 2009). The OEHHA provides some guidance on conducting risk assessments for short-term projects (OEHHA 2015) and generally short-term projects lasting longer than two months should utilize the HRA tools provided by OEHHA for third trimester and later potential impacts.

4.3.3.6 Consistency with CAP

As per the SLOCAPCD, a CAP consistency analysis is generally required for a Program Level Environmental Impact Report (EIR), and may be necessary for a Project Level EIR, depending on the project being considered. Examples of projects and programs requiring a consistency analysis include: General Plan Updates and Amendments, Specific Plans, Area Plans, large residential developments, and large commercial or industrial developments.

The consistency analysis should evaluate the following questions:

- Are the population projections used in the plan or project equal to or less than those used in the CAP for the same area?
- Is the rate of increase in vehicle trips and miles traveled less than or equal to the rate of population growth for the same area?
- Have all applicable land use and transportation control measures (TCMs) from the CAP been included in the plan or project to the maximum extent feasible?

If the answer to all the above questions is yes, then the proposed project or plan is considered to be consistent with the CAP. If the answer to any one of the questions is no, then the emissions reductions projected in the CAP may not be achieved, which could delay or preclude attainment of the state ozone standard. This would be considered inconsistent with the CAP.

4.3.4 Impact Assessment Methodology

Air emissions are estimated utilizing computer models which incorporate a range of different inputs and emission factors. Generally, on-site construction emissions are estimated utilizing the CalEEMod computer model, which incorporates emission factors for equipment, on-site fugitive dust emissions, and emissions associated with employees commuting. Materials handling related to concrete/asphalt crushing is handled separately. In addition, the generation of waste materials to be hauled off site by train and truck are calculated separately from the CalEEMod model using the EMFAC emission factor model and spreadsheets to estimate emissions rates from on-road vehicles, the U.S. EPA for locomotive emission rates, and the AP-42 Compilation of Air Pollutant Emissions Factors to estimate fugitive dust from on-road vehicle travel. Project operational emissions are nominal and primarily related to only occasional vehicles commuting to the site and on site related to restoration monitoring, etc.

Toxic emission impacts are assessed utilizing a health risk approach utilizing the HARP2 model and short duration activities. Impacts for air emissions are short lived as they are almost entirely associated with construction emissions. The OEHHA guidance is used to assess health risks from short-term construction.

4.3.5 Project-Specific Impacts and Mitigation Measures

Compliance with the thresholds discussed above (Section 4.3.3) are addressed in this section. Threshold a) related to predicted ambient criteria pollutant concentrations associated with modeling of ambient concentrations associated with the Project emissions, was not conducted as the Project emissions levels are below the SLOCAPD thresholds and is therefore not addressed.

The primary emissions associated with the Project would be emitted by construction sources associated with the demolition and remediation activities as well as mobile sources associated with the transportation of materials. These would involve the following activities that would generate air emissions:

- Construction equipment associated with aboveground demolition;
- Construction equipment associated with belowground demolition and remediation;

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- Fugitive dust from disturbed areas and vehicle travel both on-road and off-road;
- Fugitive dust from material crushing and loading and unloading of debris;
- Trucks to haul materials to/from the Project site; and
- Trains used to haul materials from the Project site.

Impacts associated with the air emissions from these activities are discussed below. GHG emissions associated with the Project are addressed in Section 4.8, Greenhouse Gas Emissions.

Impact #	Impact Description	Residual Impact
AQ.1	Threshold b): Would construction activities associated with the Project generate criteria pollutant emissions that exceed SLOCAPCD thresholds?	Class II

Air emissions from on-site construction activities were estimated using the emission factors and equations from the CalEEMod 2022.1.1.20 (online) software model, and the assumptions on the duration and personnel detailed in Chapter 2.0, Project Description. Appendix C includes details on the CalEEMod model inputs/outputs and construction equipment and periods of operation for each equipment piece.

Truck hauling emissions were calculated using emissions factors obtained from CARB emission factor computer module guidance (EMFAC2017) Version 1.0.2 and calculated separately from the CalEEMod model in spreadsheets. Fugitive dust emission factors from off-site paved roads are included in this analysis and are based on AP-42, Chapter 13.2.1.

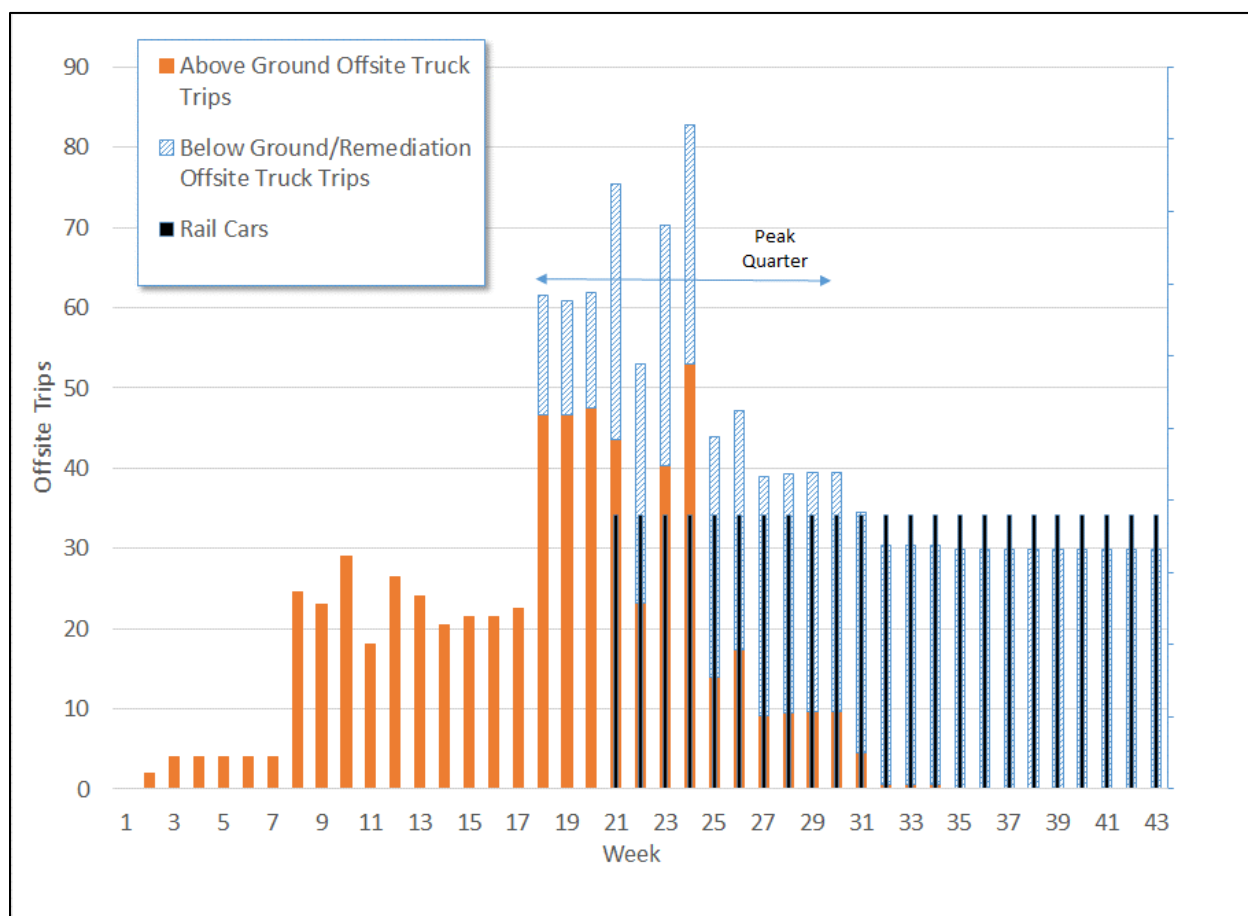
Rail emission factors are also calculated separately from the CalEEMod model in spreadsheets and are based on the EPA document Emission Factors for Locomotives (EPA-420-F-09-025).

Emission factors for fugitive dust from some sources, such as material crushing, which are not included in the CalEEMod model, are calculated separately and based on the EPA document AP 42, Table 11.19.2-2. Emission calculations are provided in Appendix C.

For the purpose of the air quality assessment, demolition and remediation activities were assumed to occur continuously over a period of approximately three years and to begin as early as 2025. A substantial amount of the remediation work will be completed in the first three years, and then remediation will likely continue, but at a lower intensity level, over additional years (potentially up to 10 years) to finalize remediation and site grading and restoration depending on sub-surface site conditions and detailed remediation and grading work plans. The quarter with the peak level of activity is estimated based on the equipment schedule in order to estimate maximum quarterly and daily emissions. This peak quarter was determined to occur during a period of overlapping aboveground and belowground demolition and remediation activities in Year 1. See Figure 4.3.6.

The anticipated maximum daily haul trips and commuter trips per month for the combined activities was also included in the analysis and, thus, represents a reasonable worst-case scenario for the purpose of estimating emissions from on-site equipment and personnel, on-site material staging, crushing, and loading, and off-site hauling by a combination of rail and truck.

Figure 4.3-6 Peak Weekly Trips (Rail and Truck)



Source: Applicant submittals

The overall duration of activity may be longer than this scenario, but the intensity of on-site work is not expected to be greater than the scenario illustrated.

The Applicant supplied information on the estimated volumes of materials generated and associated truck and rail activity by week during the first year of peak activity. These are presented in Appendix C.

The CalEEMod modeling arrangement assumes a single phase lasting one quarter, with equipment arrangements based on Chapter 2.0, Project Description, and the assumptions in the Applicant's Air Quality Report. It was conservatively assumed that a large range of equipment would be operating simultaneously during the peak quarter, including equipment from aboveground demolition (in the process equipment areas, for example) and belowground demolition (in the tank farm area for example) related to remediation (also in the tank farm area for example). Although changes to phasing could produce lower emissions (such as the assumptions in the Applicants Air Quality Report), this conservative approach estimates a reasonable worst case for emissions during the peak quarter.

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CalEEMod inputs are summarized below:

- Wind Speed and Precipitation data used the County defaults;
- Climate Zone data used the County defaults;
- The utility was selected as Pacific Gas and Electric Company;
- Construction equipment listings and horsepower are based on equipment listings provided by the Applicant;
- Equipment load factors utilize the CalEEMod defaults;
- Fugitive dust use the CalEEMod defaults; and
- Mitigations for construction included watering exposed areas two times per day for fugitive dust control and is incorporated into the mitigated Project as per the CalEEMod model.

During construction, a large portion of PM₁₀ emissions typically arises from large pieces of equipment and vehicles traveling on disturbed soil on site, unpaved surfaces, and various earth-moving activities, such as grading and clearing and the movement of materials to the rail loading area. The Applicant assumed a worst case of up to 200,500 cubic yards of remediated material would be moved on site, with additional material movement as per cut and fill needs (see Table 2.1). Dust emissions from material movement and vehicle movement are known as “fugitive dust” and depend heavily on the size of the graded area, volume of soil moved, the number of vehicles and construction machinery required, the duration of construction and the moisture levels/amount of watering occurring. The fugitive PM₁₀ emissions are estimated based on a disturbed area as provided by the Applicant. Emission factors were used from CalEEMod program for soil moving and road dust.

On-site vehicle movements of remediated soil and materials removed during aboveground and belowground activities would be moved on site to the rail loading area or moved on site to be transported off site or moved on site to the crushing area. These on-site trips assume 50 percent travel on unpaved roads.

Table 4.3.7 shows the estimated emissions during the peak quarter and Table 4.3.8 shows the estimated emissions during the peak day. Peak daily and quarterly reactive organic gases plus oxides of nitrogen (ROG + NO_x), PM₁₀, and DPM emissions from demolition and remediation activities are shown in Table 4.3.9 compared to the SLOCAPCD thresholds for emissions that occur within the County. For emissions outside of the County that occur along truck and rail routes in other air districts, see Tables 4.3.10 and 4.3.11.

Table 4.3.7 Peak Quarter Emissions, Tons/Quarter, Unmitigated

Activity	Peak Quarter Emissions, tons/quarter						
	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO _x	DPM
Demolition and Remediation							
Construction Equipment	2.37	0.22	0.08	0.07	1.53	0.03	0.08
Construction Fugitive Dust			9.43	0.95			
Total On-site	2.37	0.22	9.51	1.02	1.53	0.03	0.08

Table 4.3.7 Peak Quarter Emissions, Tons/Quarter, Unmitigated

Activity	Peak Quarter Emissions, tons/quarter						
	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO _x	DPM
Off-site Hauling							
Off-site Hauling: Trucks	0.51	0.01	0.01	0.01	0.03	0.00	0.003
Off-site Hauling: Trucks Fugitive Dust			0.59	0.15			
Off-site Hauling: Rail	0.09	0.00	0.00	0.00	0.03	0.00	0.00
Total Off-site	0.60	0.01	0.61	0.15	0.06	0.00	0.01
Peak Quarter Total	2.97	0.23	10.12	1.17	1.59	0.03	0.09
Peak Quarter On-site, NO _x + ROG, tons	2.59						
Peak Quarter Off-site, NO _x + ROG, tons	0.61						
Peak Quarter Total NO _x + ROG, tons	3.20						
Peak Quarter Total Fugitive Dust On-site, tons	9.43						
Peak Quarter Total Fugitive Dust, tons	10.03						

Table 4.3.8 Daily Emissions, Pounds/Day, Unmitigated

Activity	Daily Emissions, pounds/day						
	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO _x	DPM
Demolition and Remediation							
Construction Equipment, lbs	72.80	6.94	2.44	2.23	47.20	0.15	2.44
Construction Fugitive Dust, lbs			292.00	29.40			
Total On-site, lbs	72.80	6.94	294.44	31.63	47.20	0.15	2.44
Off-site Hauling							
Off-site Hauling: Trucks, lbs	46.07	0.61	0.99	0.49	2.61	0.09	0.27
Off-site Hauling: Trucks Fugitive Dust, lbs			52.62	12.92			
Off-site Hauling: Rail, lbs	3.96	0.15	0.09	0.08	1.43	0.01	0.09
Total Off-site, lbs	50.03	0.76	53.70	13.49	4.04	0.09	0.36
Daily Total, lbs	122.83	7.70	348.14	45.12	51.24	0.24	2.80
Peak Daily On-site, NO _x + ROG, lbs	79.74						
Peak Daily Off-site, NO _x + ROG, lbs	50.79						
Peak Daily, NO _x + ROG, lbs	130.53						

Notes: Daily emissions of fugitive dust is not utilized for thresholds; only the quarterly emissions are used in the thresholds, so it is not shown in this table which only shows daily summary

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Table 4.3.9 Project Construction Emissions and SLOCAPCD Thresholds, Unmitigated

Pollutant	SLOCAPCD Thresholds			Project Construction Only		Baseline		Project Construction Change Over Baseline	
	Daily lbs	Quarterly		Daily lbs	Qrtly tons	Daily lbs	Qrtly tons	Daily lbs	Qrtly tons
		Tier 1 tons	Tier 2 tons						
ROG + NO _x	137	2.5	6.3	130.53	3.20	586	26.2	-455	-23.0
Diesel Particulate Matter	7.0	0.13	0.32	2.80	0.09	1.32	0.05	1.47	0.03
Particulate Matter (PM ₁₀)	-	2.5	-	-	10.03/ 9.43*	-	6.38/ 0.12*	-	3.65/ 9.31*

Notes: * Total on-site plus off-site/on-site only.

Source is CalEEMod. See Appendix C for CalEEMod output files and more detailed calculations. Applicant report with modifications. See Appendix C for calculations.

The analysis demonstrates that emissions from Project construction activities as compared with historical emissions would not exceed the SLOCAPCD thresholds for the daily or quarterly emissions of NO_x and ROG, or the daily or quarterly emissions of DPM. The historical operations emissions of the refinery produced larger amounts of NO_x and ROG on average, and therefore there would be a net reduction in these emissions associated with the Project.

There would be a potential exceedance of the construction thresholds for fugitive dust emissions in the unmitigated scenario due primarily to the earth movement and vehicle travel on dirt roads at the site, which exceeds the historical levels of fugitive dust emissions. The historical operations at the SMR did not generate large amounts of on-site fugitive dust as most of the fugitive dust was generated from off-site vehicle travel. Note that these levels listed in the above tables do not include any measures to control dust levels.

“On-site only” fugitive dust is not specifically delineated as a threshold by the SLOCAPCD; the SLOCAPCD thresholds are for both on-site and off-site emissions of fugitive dust combined. However, as the Nipomo Mesa experiences periods of fugitive dust that are severe, the potential contribution of the Project to these dust levels is a potential issue. As there is an increase in on-site fugitive dust emissions on site and the area is very susceptible to dust impact historically, given the correct conditions, construction on-site dust emissions could produce a significant impact. Therefore, mitigation measures have been included below.

Emissions in other air districts associated with truck and rail travel through those respective districts would also be below their respective CEQA thresholds (Table 4.3.10) for construction (where applicable) except for the South Coast Air Quality Management District (SCAQMD). However, as the historical SMR operations entailed a peak day travel of rail transportation through the SCAQMD, the net increase in SCAQMD emissions would be below the SCAQMD thresholds, and impacts would therefore be less than significant in the SCAQMD (See Appendix C).

Table 4.3.10 Air District Thresholds

Air District	Units	NO _x	ROG/VOC	PM ₁₀	PM _{2.5}	CO	SO _x
SBCAPCD	ton/year	25	25	-	-	-	-
SCAQMD	lb/day	100	75	150	55	550	150
SJVAPCD	ton/year	10	10	15	15	100	27
VCAPCD	lb/day	-	-	-	-	-	-
MDAQMD	ton/year	25	25	15	12	100	25

Note: SBCAPCD = Santa Barbara County APCD; SCAQMD= South Coast Air Quality Management District; SJVAPCD = San Joaquin Valley APCD; VCAPCD = Ventura County APCD; MDAQMD = Mojave Desert Air Quality Management District.

Source: respective APCD/AQMD CEQA guidelines and Applicant air quality report (see Appendix C).

Table 4.3.11 Construction Only Emissions in Other Air Districts: Mobile Emissions

Air District	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO _x	Significant (exceeds thresholds above)?
Ton/year							
SBCAPCD	9.93	0.35	0.80	0.20	3.41	0.01	No
SJVAPCD	0.32	0.00	0.36	0.00	0.02	0.00	No
VCAPCD	4.96	0.18	0.25	0.10	1.75	0.01	NA
MDAQMD	16.84	0.62	0.36	0.35	6.06	0.02	No
Pounds/day							
SCAQMD	108.8	3.9	7.3	2.2	37.9	0.1	Yes for NO _x

Note these emissions do not include historical emissions out-of-County.

Source: Applicant air quality report (see Appendix C). Ventura County APCD does not have construction thresholds.

Valley fever is also a potential threat to workers and off-site areas if construction dust is not controlled. Measures below addressing dust emissions and potential exposure would minimize potential impacts.

During grading or demolition, hydrocarbon contaminated soils would also be encountered, and special handling of these soils would reduce potential exposure of the public. See Section 4.9, Hazards and Hazardous Materials, for a discussion of hydrocarbon-contaminated material handling and asbestos handling.

Mitigation measures for larger construction projects and as recommended by the SLOCAPCD to control fugitive dust emissions are associated with measures such as site watering, vehicle speed limits, maintaining minimum soil moisture, etc. A number of these measures are already proposed by the Applicant and have been incorporated into the measures below.

Mitigation Measures

AQ.1-1 Demolition & Remediation Activity Management Plan (DRAMP): The Applicant shall prepare a Demolition & Remediation Activity Management Plan (DRAMP) to be approved by the SLOCAPCD, and County Planning and Building, and include

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requirements in the SLOCAPCD CEQA Handbook identified as fugitive dust mitigation measures:

1. *Reduce the amount of the disturbed area where possible.*
2. *Use of water trucks or sprinkler systems, in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the SLOCAPCD's limit of 20 percent opacity for greater than three minutes in any 60-minute period. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible. Please note that when water use may be a concern due to drought conditions, the contractor or builder should consider use of a dust suppressant that is effective for the specific site conditions to reduce the amount of water used for dust control. Please refer to SLOCAPCD for a list of potential dust suppressants.*
3. *All dirt stockpile areas should be sprayed daily and covered with tarps or other dust barriers as needed.*
4. *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;*
5. *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) or otherwise comply with California Vehicle Code (CVC) Section 23114;*
6. *"Track-Out" is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in CVC Section 23113 and California Water Code 13304. To prevent 'track out', designate access points and require all employees, subcontractors, and others to use them. Install and operate a 'track-out prevention device' where vehicles enter and exit unpaved roads onto paved streets. The 'track-out prevention device' can be any device or combination of devices that are effective at preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified;*
7. *All fugitive dust mitigation measures shall be shown on grading and building plans;*
8. *In support of SLOCAPCD standard fugitive dust mitigation measures, the Applicant shall designate a Visible Emission Evaluation certified person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize nuisance violations from dust complaints (Rule 402) and to reduce visible emissions below the SLOCAPCD's limit of 20 percent opacity (Rule 401) for greater than 3 minutes in any 60-minute period. 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 SLOCAPCD Engineering & Compliance Division, and reproduced on all permit plans submitted to the County, prior to the start of any grading, earthwork, or demolition;

- 9. 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;*
- 10. 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;*
- 11. 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 SLOCAPCD;*
- 12. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;*
- 13. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers shall be used with reclaimed water where feasible. Roads shall be pre-wetted prior to sweeping when feasible;*
- 14. Construction activities that will generate dust shall be limited to periods when air quality based on PM_{10} only is rated as good. If the forecast falls out of the “good” rating, activities that will generate dust can continue if the PM_{10} emissions from those activities are effectively managed under a PM_{10} mitigation agreement between APCD and Phillips 66 that includes upwind and downwind monitoring information (see item 19 below). The 6-day forecast for the CDF forecast zone is available from the SLOCAPCD website, <https://www.slocleanair.org/air-quality/air-forecasting-map.php>. This information should be used by all on-site workers to plan demolition and remediation activities;*
- 15. Provide training to all site workers regarding dust control policies and practices and maintain records of training;*
- 16. Take additional measures as needed to ensure dust from the Project site is not impacting areas outside the Project boundary;*
- 17. Between June 1 and November 30, when Valley fever rates of infection are the highest, additional dust suppression measures (such as additional water or the application of additional soil stabilizer) shall be implemented prior to and immediately following ground disturbing activities if wind speeds exceed 15 miles per hour (mph) or temperatures exceed 95 degrees Fahrenheit for three consecutive days. The additional dust suppression will continue until winds are 10 mph or lower and outdoor air temperatures are below 90 degrees for at least two consecutive days. The additional dust suppression measures will be incorporated into the Final*

Dust Control Plan. The Plan shall be submitted to County Public Health and County Department of Planning and Building for review and approval;

- 18. The primary Project construction contractor will prepare and implement a worker training program that describes potential health hazards associated with Valley fever, common symptoms, proper safety procedures to minimize health hazards, and notification procedures if suspected work-related symptoms are identified during construction. The worker training program will identify safety measures to be implemented by construction contractors during construction. Safety measures shall include: 1) Providing HEPA-filtered air-conditioned enclosed cabs where applicable on heavy equipment; 2) Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment; 3) Providing communication methods, such as two-way radios, for use by workers in enclosed cabs; 4) Providing personal protective equipment (PPE), such as half-mask and/or full-mask respirators equipped with particulate filtration, to workers active in dusty work areas; 5) Providing separate, clean eating areas with hand-washing facilities for construction workers; 6) Cleaning equipment, vehicles, and other items before they are moved off site to other work locations; 7) Providing training for construction workers so they can recognize the symptoms of Valley fever and promptly report suspected symptoms of work-related Valley fever to a supervisor; and 8) Directing workers that exhibit Valley fever symptoms to immediately seek a medical evaluation; and*

- 19. The operator shall enter into a PM₁₀ mitigation agreement with the SLOCAPCD to operate particulate air monitoring stations to measure PM_{2.5} and PM₁₀ concentrations upwind (between the Oceano Dunes State Recreational Vehicle Area (ODSVRA) and the Project's demolition/remediation activities) and downwind of proposed construction areas. Air monitoring shall be installed with sufficient time before construction starts to enable measurement of baseline conditions and to establish performance criteria sufficient to limit potential equipment emissions and fugitive dust impacts from the Project on area residences. Performance criteria, air quality mitigation measures and operating characteristics of the system shall be in the Demolition and Remediation Activity Management Plan.*

Submittal Timing: Prior to County permit issuance. ***Approval Trigger:*** Issuance of County permit ***Responsible Party:*** The Applicant or designee. ***What is required:*** Approved Demolition & Remediation Activity Management Plan (DRAMP). ***To whom it is submitted and approved by:*** SLOCAPCD, County Public Health, and County Department of Planning and Building.

Residual Impacts

See Tables 4.3.12 and 4.3.13 for peak quarterly and daily emissions estimates with mitigation and Table 4.3.14 for a comparison to the SLOCAPCD thresholds.

Table 4.3.12 Peak Quarter Emissions, Tons/Quarter MITIGATED

Activity	Peak Quarter, tons/quarter						
	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO _x	DPM
Demolition and Remediation							
Construction Equipment	1.82	0.11	0.03	0.02	2.80	0.03	0.03
Construction Fugitive Dust			0.94	0.10			
Total On-site	1.82	0.11	0.97	0.12	2.80	0.03	0.03
Off-site Hauling							
Off-site Hauling: Trucks	0.51	0.01	0.01	0.01	0.03	0.00	0.00
Off-site Hauling: Trucks Fugitive Dust			0.59	0.15			
Off-site Hauling: Rail	0.09	0.00	0.00	0.00	0.03	0.00	0.00
Total Off-site	0.60	0.01	0.61	0.15	0.06	0.00	0.01
Peak Quarter Total, tons	2.42	0.12	1.58	0.27	2.86	0.03	0.04
Peak Quarter On-site, NO _x + ROG, tons	1.93						
Peak Quarter Off-site, NO _x + ROG, tons	0.61						
Peak Quarter Total NO _x + ROG, tons	2.54						
Peak Quarter Total Fugitive Dust On-site, tons	0.94						
Peak Quarter Total Fugitive Dust, tons	1.54						

Source: Applicant submittals with modifications. See Appendix C

Emissions levels of fugitive dust with the mitigation measures would be below the thresholds. Fugitive dust emissions from only on-site sources are considered a potential impact on the Nipomo Mesa due to historical issues related to dust (see Section 4.3.1.2). These mitigation measures are effective in combating dust issues, producing reductions of 55–84 percent based on CalEEMod mitigation effectiveness for each measure. The application of the mitigation in the CalEEMod model indicates that peak quarter fugitive dust emissions would be reduced substantially, and on-site only fugitive dust emissions would also be below the thresholds. Therefore, impacts would be **less than significant with mitigation (Class II)**.

Please note that there are land use issues related to generating dust emissions during construction on the Nipomo Mesa that have not been addressed in this section. Although the Project, in combination with baseline or on-site-only emissions of fugitive dust, are below the SLOCAPCD thresholds for quarterly emissions, the General Plan indicates that any net increase of fugitive dust on the Nipomo Mesa is not allowed. This is discussed further in Section 4.11, Land Use and Planning.

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Table 4.3.13 Daily Emissions, Pounds/Day MITIGATED

Activity	Daily Emissions, pounds/day						
	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO _x	DPM
Demolition and Remediation							
Construction Equipment, lbs	55.60	3.26	0.82	0.77	86.40	0.16	0.82
Construction Fugitive Dust, lbs			29.20	3.15			
Total On-site, lbs	55.60	3.26	30.02	3.92	86.40	0.16	0.82
Off-site Hauling							
Off-site Hauling: Trucks, lbs	46.07	0.61	0.99	0.49	2.61	0.09	0.27
Off-site Hauling: Trucks Fugitive Dust, lbs			52.62	12.92			
Off-site Hauling: Rail, lbs	3.96	0.15	0.09	0.08	1.43	0.01	0.09
Total Off-site, lbs	50.03	0.76	53.70	13.49	4.04	0.09	0.36
Total, On-site plus Off-site, lbs	105.63	4.02	83.72	17.41	90.44	0.25	1.18
Peak Daily On-site, NO _x + ROG, lbs	58.86						
Peak Daily Off-site, NO _x + ROG, lbs	50.79						
Peak Daily, NO _x + ROG, lbs	109.65						

Notes: Daily fugitive dust is not utilized for thresholds: only the quarterly is used, so it is not shown in the daily summary. Also includes the use of Tier 4 engines as part of mitigation under impact AQ.3.

Source: Applicant submittals with modifications. See Appendix C

Table 4.3.14 Project Construction Emission Thresholds within the County Summary MITIGATED

Pollutant	SLOCAPCD Thresholds			Project Construction Only		Project Construction Change Over Baseline	
	Daily Pounds	Quarterly		Daily, pounds	Quarterly, tons	Daily, pounds	Quarterly, tons
		Tier 1 tons	Tier 2 tons				
ROG + NO _x	137	2.5	6.3	109.65	2.54	-476	-23.6
Diesel Particulate Matter	7.0	0.13	0.32	1.18	0.04	-0.15	-0.02
Fugitive Dust Particulate Matter (PM ₁₀)	-	2.5	-	-	1.54/0.94*	-	-4.84/0.82*

Notes: * Total on-site plus off-site/on-site only.

Source is CalEEMod. See Appendix C for CalEEMod output files and more detailed calculations. Applicant report with modifications.

Impact #	Impact Description	Residual Impact
AQ.2	Threshold b): Would operational activities associated with the Project generate criteria pollutant emissions that exceed SLOCAPCD thresholds?	Class III

Although continued remediation monitoring is part of the construction Project, it could be considered operations as it would continue for a number of years. Operational activities at the Project site would be the activities associated with the long-term remediation and vegetation monitoring and site management, which would entail the use of pickup trucks visiting the site, potentially multiple times per week. The use of pickup trucks a few times per week on site generates less than one pound/day of NO_x + ROG, PM₁₀, and DPM. Impacts would be **less than significant (Class III)**.

The reduction in air emissions from the elimination of the SMR would be a beneficial impact over the long term (after construction is completed).

Impact #	Impact Description	Residual Impact
AQ.3	Threshold c): Would activities associated with the Project generate toxic emissions that exceed SLOCAPCD thresholds?	Class II

Construction activities would produce emissions of toxic materials from primarily diesel combustion sources containing DPM and fugitive dust. As part of the EIR analysis a health risk assessment (HRA), utilizing the HARP2 (version 22118) modeling program, was conducted to estimate the impacts of the on-site diesel emissions and fugitive dust generation on nearby areas and residential parcels. The HARP2 model is a health risk assessment model and is recommended in CAPCOA HRA Guidelines (CAPCOA 2009) for Land Use projects (mentioned in the SLOCAPCD CEQA Handbook).

Generally, detailed risk assessments are conducted for long-term operational activities that generate toxic emissions. However, although the CAPCOA document does not provide a methodology for construction projects, it indicates that:

lead agencies under CEQA are required to identify health risk from construction activities or projects and mitigate if they are deemed significant.

OEHHA also indicates that:

local air pollution control districts sometimes use the risk assessment guidelines for the Hot Spots program in permitting decisions for short-term projects such as construction (OEHHA 2015).

and the OEHAA provides guidance for the cancer risk evaluation for short-term projects. The OEHHA's evaluation of the impact of early-in-life exposure is recommended for use of the evaluation of short-term projects. OEHHA indicates that:

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Exposure from projects lasting more than 6 months should be evaluated for the duration of the project. In all cases, for assessing risk to residential receptors, the exposure should be assumed to start in the third trimester ... (OEHHA, 2009). Thus, for example, if the District is evaluating a proposed 5-year mitigation project at a hazardous waste site, the cancer risks for the residents would be calculated based on exposures starting in the third trimester through the first five years of life.

The HARP2 model allows for the evaluation of exposures of shorter duration than the standard 30 years. Therefore, the HARP2 model was utilized to assess the potential for cancer, chronic and acute impacts from the on-site construction activities on nearby receptors over the three-year peak construction activity period.

Assumptions made in the HRA include the following:

- Use of regulatory default options in the dispersion modeling;
- Use of an area source for all construction activity at the site; and
- Receptors located at a spacing of 100 meters out to 6 km as well as all residential parcels within approximately one mile of the site.

The HRA was prepared in accordance with the methodology in Health Risk Assessments for Proposed Land Use Projects (CAPCOA 2009) and the OEHHA guidance (OEHHA 2015). The estimation of cancer risk levels is based upon a person being exposed to the air toxin at one location from the third trimester of pregnancy through the third year of life. See Appendix C for details on the modeling assumptions.

Meteorological data utilized were from the Nipomo station for five years (2008–2012) obtained from the SLOCAPCD as part of the previous Rail Spur Project EIR (County 2015). This data was processed specific to the Mesa area and is still considered applicable as the use of any years of meteorological data in modeling is acceptable as long as the years are somewhat contiguous.

Cancer risk was evaluated by examining DPM pollutant emissions and fugitive dust sources. Health risks associated with the acute and chronic non-cancer risks are adverse health effects evaluated by comparing the contaminant concentration of each compound with the appropriate Reference Exposure Level (REL), performed by the HARP2 model.

For diesel trucks entering and leaving the facility, as they are a part of the current/baseline conditions and would not increase over the baseline analysis, trucks were not included in the analysis as they would present the same or lower health risks than the baseline operations.

Rail emissions, however, might increase over the baseline. Rail emissions along the mainline route might be similar to historical levels as the rail cars would be added to existing trains (up to eight rail cars per train), and therefore the incremental increase in risk would be nominal. However, as a worst case, the Rail Spur EIR examined the potential cancer risks for additional trains along rail routes and concluded that, with 260 trains per year, impacts could be potentially significant for areas when trains travel at low speeds. As this Project would generate fewer than 260 trains per year, and would not last more than a year or so with peak train transport (the Rail Spur EIR

assumed 260 trains per year continuously), and with the utilization of existing trains, the impacts of train activity on health risk would be less than significant. However, rail emissions within one mile of the SMR were included in the on-site health risk analysis.

DPM impacts for cancer and chronic emissions utilized the OEHHA assessments for DPM included in the HARP2 model. For acute impacts, the DPM was speciated and the HARP2 model was run separately for the acute impacts to address the potential acute impacts from DPM (OEHHA does not have a reference exposure level for acute DPM exposure).

Fugitive dust emissions utilized the CARB speciation profiles for unpaved road dust and the PM₁₀/PM₃₀ ratios (CARB 2023b) to speciate the fugitive dust in the model.

The results from the HARP2 model are shown in Table 4.3.15 associated with the construction Project over three years. As the fugitive dust levels are quite high without any mitigation, cancer and chronic risks are above the thresholds for the unmitigated case. Acute risks would be below the threshold hazard index (HI) along the SMR fence line.

Table 4.3.15 Health Risk Assessment Results

Results	Cancer	Chronic	Acute
Project Unmitigated	10.99	0.71	0.45
Project Mitigated	2.82	0.11	0.07

Notes: Results using HARP2 version 22118, mitigated case assumes fugitive dust mitigation and the use of Tier 4 construction equipment. Cancer and chronic at the highest sensitive receptor (residence receptor 12706). Acute impacts are the highest along the entire SMR fence line.

Source: See Appendix C for more details.

Project construction cancer risk from on-site activities would increase over the SMR historical operations by more than the threshold and therefore could be a potentially significant impact.

Mitigation measures for larger construction projects and as recommended by the SLOCAPCD to control DPM and fugitive dust emissions (see mitigation measure AQ.1-1 above for mitigation of fugitive dust) are associated with measures such as the use of cleaner construction equipment (Tier 4) and watering and soil stabilizer methods to reduce fugitive dust emissions. The measure for construction equipment is listed below.

Mitigation Measures

AQ.3-1 Clean Construction Equipment: *The Applicant shall ensure that all grading and construction equipment greater than 100 bhp be Tier 4 interim or equipped with CARB Level 3 diesel particulate filters (DPF), or equivalent, to achieve an 85 percent reduction in diesel particulate emissions from an uncontrolled engine. Stickers shall be adhered to equipment that demonstrates compliance.*

Submittal Timing: *Prior to County permit issuance. Approval Trigger:* *Issuance of County permit* **Responsible Party:** *The Applicant or designee. What is required:* *Submittal of documentation evidence of construction equipment CARB certification. To whom it is submitted and approved by:* *SLOCAPCD and County Department of Planning and Building.*

Residual Impacts

Methods recommended to control DPM emissions are very effective in reducing DPM emissions and impacts, with CalEEMod demonstrating that use of the mitigation provides a substantial reduction in DPM emissions. Most construction equipment is in the process of being converted to the cleaner diesel fleet requirements as part of California regulations and cleaner, Tier 4 equipment is reasonably available throughout California. Studies by the SCAQMD (SCAQMD 2023) indicate that a 2021 inventory of construction equipment shows that while many Tier 0 to Tier 3 engines are still in use, Tier 4 engines are readily available comprising the largest group of equipment in use. The availability of Tier 4 engines is prevalent (the largest category) for engine categories in all horsepower ranges, indicating a high degree of availability. The CalEEMod model shows that DPM emissions would be reduced, due to the prevalence of Tier 4 equipment being used today, by about 65 percent, with cancer risk reduced as shown in Table 4.3.15. In addition, the large reduction in fugitive dust associated with mitigation measure AQ.1-1 also substantially reduces risks. With the use of cleaner construction equipment and fugitive dust measures, cancer and chronic risks would be reduced below the thresholds and impacts would be **less than significant with mitigation (Class II)**.

The reduction in toxic pollutant emissions from the elimination of the SMR would be a beneficial impact over the long term (after construction is completed).

Impact #	Impact Description	Residual Impact
AQ.4	Threshold d): Would activities associated with the Project generate odors?	Class II

Sources of odors from the SMR would be related to emissions of hydrocarbons, hydrogen sulfide, and emissions of diesel exhaust. Emissions of fugitive hydrocarbons from the Project would be substantially less than that from the historical operations at the SMR. As the SMR equipment to be removed with demolition would have been cleaned and purged prior to the start of Project construction, minimal remaining hydrocarbons or sulfur compounds would exist within equipment to be removed as part of the above/belowground demolition efforts. However, if some equipment is not purged prior to removal or purging missed some areas, then potential impacts could occur.

As fugitive emissions would be substantially reduced over the historical operations, and minimal inventory of hydrocarbons are anticipated in any equipment to be removed, potential odor issues would be reduced over the baseline activities and impacts from hydrocarbon or sulfur odors would be less than significant. The reduction in potential odors issues from the elimination of the SMR would be a beneficial impact over the long term.

Odors could also result from accidents (spills of oils and construction diesel) or the movement of contaminated soils. As contaminated soils handling impacts would be mitigated through mitigation measure HAZ.1-1 (Section 4.9, Hazards and Hazardous Materials), odor impacts would be managed, and impacts would be less than significant. Impacts related to on-site spills would be addressed through mitigation measure HAZ.2-1. Additional odors may be generated from purging or other issues. These could generate potentially significant impacts.

Mitigation Measures

AQ.4-1 Odor Control and Purging Plan: *The Applicant shall submit an Odor Control and Purging Plan that includes the use of degassing systems for equipment and pipeline purging operations that may be required and includes proactive measures to eliminate or reduce objectionable odors emanating from demolition and remediation activities, and an action plan if odor issues or complaints arise.*

Submittal Timing: *Prior to County permit issuance. Approval Trigger:* *Issuance of County permit. Responsible Party:* *The Applicant or designee. What is required:* *Odor Control and Purging Plan. To whom it is submitted and approved by:* *SLOCAPCD and County Department of Planning and Building.*

Residual Impacts

A release of odors, from contaminated materials, pipeline purging and equipment removal activities, could occur during demolition and remediation but would be managed through SLOCAPCD-approved Odor Control and Purging Plan. Therefore, potential impacts from odors would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
AQ.5	Threshold d): Would Project air emissions be consistent with the adopted Air Quality Plans?	Class II

As part of the planning process, Air Pollution Control Districts make assumptions about future growth. Projects also need to have been considered in the Clean Air Plan growth projections for cumulative impacts to be considered insignificant. Consistency with the Clean Air Plan, for the projects subject to these guidelines, means that stationary source and vehicle emissions associated with the Project are accounted for in the Clean Air Plan's emissions growth assumptions. As this Project would involve the demolition of one of the largest sources of criteria pollutants in the County, it would be consistent with the planning efforts. However, if the scope of the Project changes, the SLOCAPCD should be aware of the changes and make appropriate actions to ensure compliance.

Mitigation Measures

AQ.5-1 Recordkeeping: *The operator shall submit a plan and schedule for monitoring and reporting on, and maintain records on, 1) the fuel usage on a quarterly basis, for construction equipment; 2) the truck trips, type of trucks (Tier level) and associated destinations/sources of trucks; 3) train deliveries and number of railcars; and 4) any other metrics required to estimate emissions associated with this EIR. The operator shall compare associated emissions with those calculated in this EIR for a period defined by the SLOCAPCD, but not less than three years. Upon approval of the Plan and Schedule, the operator shall, for not less than three years, conduct monitoring and keep records of the fuel usage, vehicle trips and other metrics used to prepare the reports, and shall submit reports quarterly to SLOCAPCD and County Department of Planning and Building. The records supporting the quarterly reports shall be retained*

4.3 Air Quality

on site until the Project is completed and made available to SLOCAPCD or County personnel upon request.

Submittal Timing: Prior to any permit issuance. ***Approval Trigger:*** Issuance of permit
Responsible Party: The Applicant or designee. ***What is required:*** Air Quality Monitoring and Reporting Plan. ***To whom it is submitted and approved by:*** SLOCAPCD and County Department of Planning and Building.

Residual Impacts

Impacts would be **less than significant with mitigation (Class II)**.

4.3.6 Mitigation Measure Impacts to Other Issue Areas

The mitigation measures above would involve the use of water and cleaner construction equipment. The use of cleaner construction equipment would not have any impact on other issue areas as operation of the equipment would be identical to other, less clean equipment, except for the air quality benefits. The water used as part of the fugitive dust control could total approximately 40,000 gallons per day, assuming a dust control application rate of 0.33 gallons/yd² (as per Mojave 2000 to achieve 75 percent control on a busy unpaved roadway) and application on 10 percent of the site area daily. Historical water use at the SMR has averaged 982,000 gallons per day (see Chapter 2.0, Project Description). Therefore, water use would be less than four percent of historical water use and would not have a significant impact.

4.3.7 Cumulative Impacts

Cumulative projects are discussed in Chapter 3.0, Cumulative Study Area and below.

Ongoing SMR projects, including the Slop Oil Spill and the Northern Inactive Waste Site (NIWS) remediation projects and the remaining facilities off-site projects (Summit Pump Station and Santa Maria Pump Station), would continue remediation efforts and would not have a cumulative impact for air emissions as they do not generate significant air emissions.

Other projects in the area, such as the Arroyo Grande Oil Field, the Caballero Battery project or the Dana Reserve projects, or the Santa Barbara County projects, would entail development in the area and could contribute to increases in air emissions in the area, from construction, operations, or both. However, none of these projects are located in close proximity to the SMR site (within 1 km) and would therefore not generate overlapping health risks, and these other projects would be required to comply with the SLOCAPCD CEQA requirements, through requirements in the region to mitigate the emissions increases if above the thresholds. The Project also complies with the SLOCAPCD CEQA requirements by being below the thresholds. Therefore, a cumulative impact would not occur.

Roadway projects would not entail the use of large emissions sources and would therefore not produce cumulative impacts.

4.3.8 References

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4.4 Biological Resources

The following section describes the biological resources found within the Biological Study Area (BSA). The BSA includes the boundary for the Santa Maria Refinery (SMR or Refinery) Demolition and Remediation Project (Project) as defined in Chapter 2.0 (Project site) and a 100-foot buffer (Figure 4.4-1). This section also evaluates the potential of these biological resources to be impacted by Project activities as defined in Chapter 2.0, recommends mitigation measures where appropriate, and provides a discussion of cumulative biological impacts.

As described in Chapter 2.0, Project Description, the Project would include the demolition and remediation of the SMR followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

The information provided below is a compilation of botanical and wildlife data gathered by the Applicant's consultant, ERM-West, Inc. (ERM) (ERM 2023), supplemental surveys conducted by SWCA Environmental Consultants (SWCA) and MRS Environmental, Inc. (MRS), previous California Environmental Quality Act (CEQA) documents, and information from federal, state, and local agencies.

4.4.1 Environmental Setting

The BSA is situated in the Nipomo Mesa along the Central Coast east of the Oceano sand dunes and north of Oso Flaco Creek (Figure 4.4-2). The Nipomo Mesa and the Central Coast region in general occur in an important biological transition zone between the more humid communities of central and northern California and the more arid communities of southern California. Important ecological areas of significance adjacent to the BSA include the Pismo State Beach, Oceano Dunes State Vehicular Recreation Area (ODSVRA), the Guadalupe-Nipomo Dunes National Wildlife Refuge, Oso Flaco Lake, and Oso Flaco Creek (Figure 4.4-2).

The Nipomo Mesa has a coastal Mediterranean climate, with long, dry, summers and short, wet, mild winters. During the late spring and summer months, dense fog is common in the morning and acts to moderate summer temperatures. Average daily high temperatures during the summer months are in the low-70s degrees Fahrenheit (°F) and average daily lows in the low-50s °F. Average daily winter temperatures range from highs in the low-60s °F to lows in the low- to mid-40s °F. Rainfall is highly variable within and between winter seasons with an average annual precipitation of 17 inches per year (Western Regional Climate Center [WRCC] 2023).

The topography of the BSA and surrounding area consists primarily of flat sandy terrain, with elevations ranging from 60 to 150 feet. Located within the Oso Flaco Creek watershed (Hydrologic Unit Code 180600060704), the BSA gradually slopes in a north to south direction towards Oso Flaco Creek, which drains west into the Pacific Ocean (Figure 4.4-2).

4.4 Biological Resources

Figure 4.4-1 Biological Study Area



Figure 4.4-2 Regional Setting



4.4 Biological Resources

The ODSVRA is located along the beach immediately west of the BSA (Figure 4.4-2). The 3,600-acre (1,456 ha) park has 5.5 miles (8.8 km) of beach access with 1,500 acres (607 ha) of sand dunes open for vehicle and recreational vehicle use. The park is the only California State Park facility that allows vehicles to be driven on the beach. The Oso Flaco Lake Natural Area is also part of the ODSVRA. The Lake area is off-limits to vehicles and is primarily used by the public for viewing plants, wildlife, and scenic landscapes. The Oso Flaco Lake Natural Area offers a 1.5-mile (2.4 km) boardwalk path, including a span that crosses over the lake itself, which connects the parking lot at the west end of Oso Flaco Lake Road to the beach.

The Guadalupe-Nipomo Dunes National Wildlife Refuge, administered by the USFWS, was established in August 2000 to protect breeding habitat for the endangered California least tern, California red-legged frog, and threatened Western snowy plover. The Refuge is located in the heart of the Guadalupe-Nipomo Dunes Preserve, along an 18-mile stretch of coastline. Public visitors may hike in from either the Rancho Guadalupe Dunes County Park to the south or the Oso Flaco Lake Natural Area to the north. The Refuge is located approximately 2 miles southwest of the Project Site and offers numerous recreational opportunities including hiking, wildlife viewing, and fishing

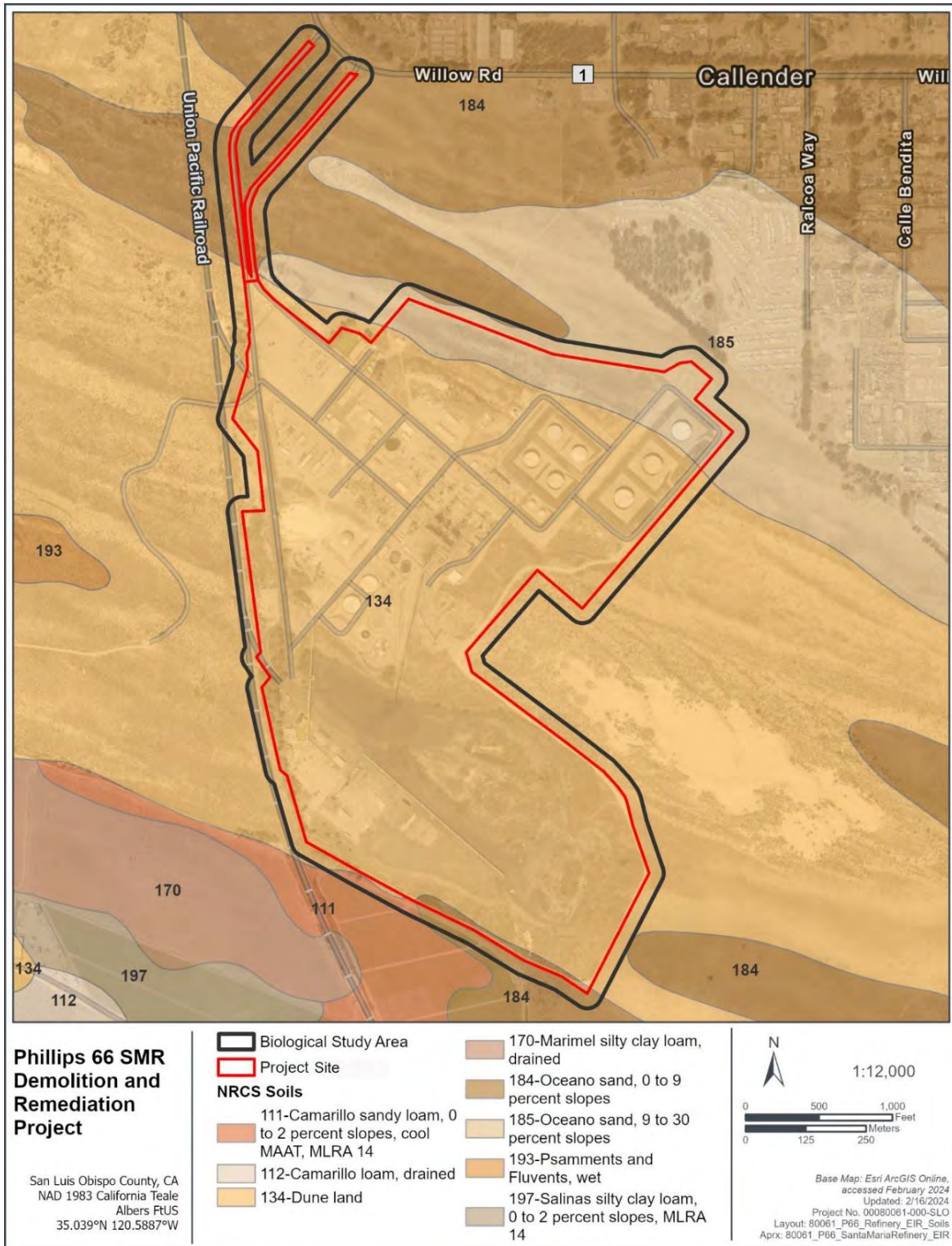
The County of Santa Barbara Parks Department manages the Rancho Guadalupe Dunes Preserve located approximately five miles south of the BSA (Figure 4.4-2). The Rancho Guadalupe Dunes Preserve supports pristine sand dunes and offers fishing, hiking, wildlife viewing, picnicking, and other activities for the public. The preserve is used as a breeding location by two federal and state listed wildlife species; the snowy plover (*Charadrius alexandrinus*) and California least tern (*Sterna antillarum*). Certain human activities within the park are seasonally restricted during the breeding season (March 1 through October 1) of these two listed wildlife species.

Black Lake Canyon is located approximately one mile north of the BSA (Figure 4.4-2). Black Lake Canyon represents a significant natural resource, containing habitat for a number of rare plant and wildlife species including federally listed threatened California red-legged frog (*Rana draytonii*). The BSA does not support suitable habitat for this species.

4.4.1.1 Soils

The Soil Survey of San Luis Obispo County, California, Coastal Part (USDA 1984) identifies four soil types within the BSA: dune land soils; Oceano sand, 9 to 30 percent slopes; Oceano sand, 0 to 9 percent slopes; and Camarillo sandy loam, 0 to 2 percent slopes (Figure 4.4-3). While these soil types were mapped by USDA over the majority of the BSA, this does not mean that other soil types have not developed in some locations. The following provides a brief description of each soil type.

Figure 4.4-3 Soils Map



4.4 Biological Resources

- **Dune land:** Most of the BSA, including most of the Refinery area, is mapped as dune land soils by the Soil Survey (Figure 4.4-3). These soils are characterized by non-hydric fine sand.
- **Oceano sand:** The north portion of the BSA is mapped as Oceano sand, 9 to 30 percent slopes (Figure 4.4-3). The access roads and a small area in the southern portion of the BSA is mapped as Oceano sand, 0 to 9 percent slopes (Figure 4.4-3). This soil type is typically found between 10 and 500 feet in elevation and formed from eolian deposit parent material. This sandy soil is excessively drained with low available water supply and is not classified as a hydric soil.
- **Camarillo sandy loam:** There is a small area in the southern portion of the BSA that is mapped as Camarillo sandy loam, 0 to 2 percent slopes (Figure 4.4-3). The Camarillo series consists of very deep, somewhat poorly drained soils that formed in alluvium derived from sedimentary rocks. This is the only area within the BSA used for agriculture.

4.4.1.2 Vegetation and Land Cover Types

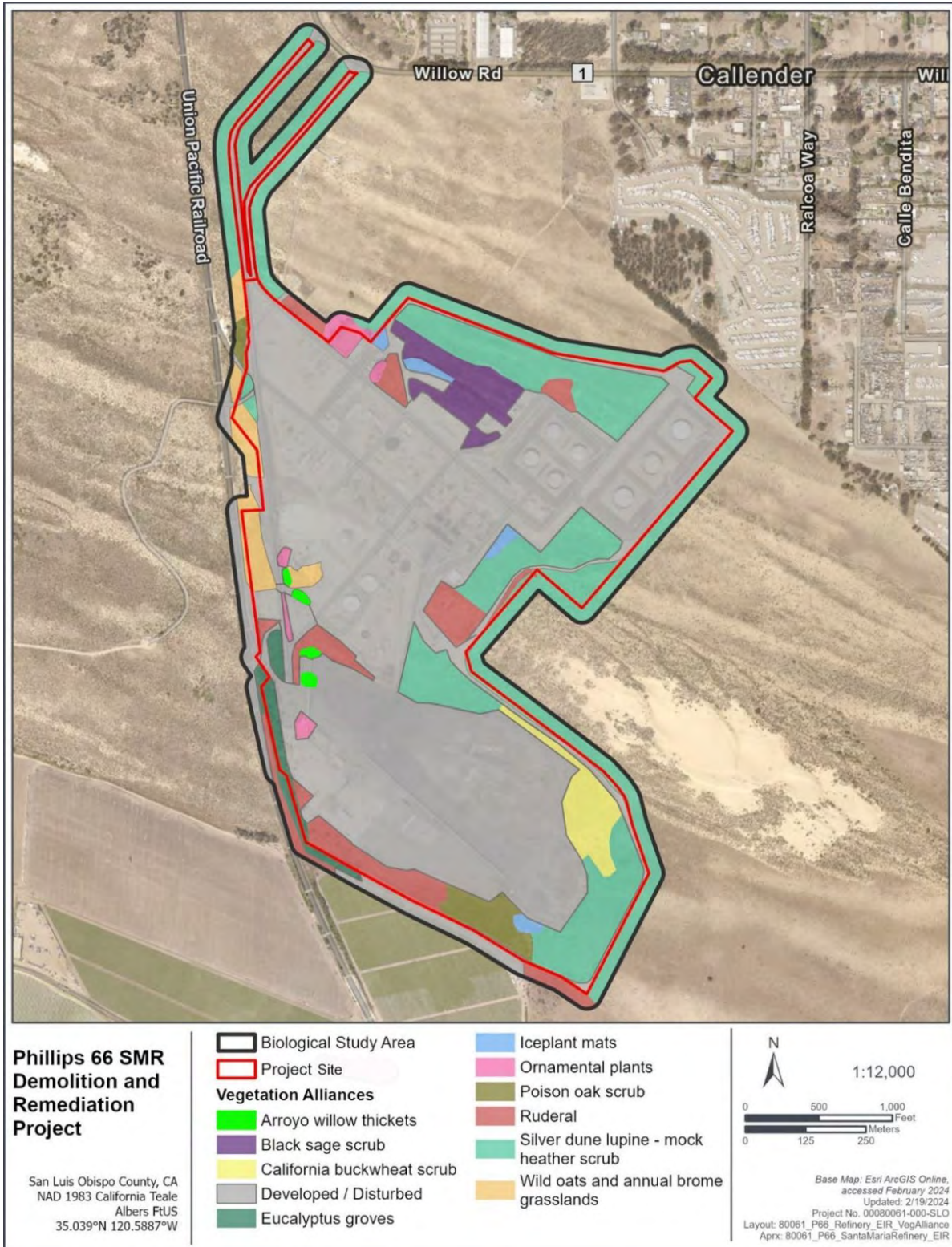
Vegetation types were characterized using a combination of the vegetation classification system described in the Manual of California Vegetation, 2nd edition (MCV2) (Sawyer et al. 2009), the MCV online version (CNPS 2023b), Holland (1986), and the California Department of Fish and Wildlife (CDFW) natural communities list (CDFW 2023b). The vegetation mapping is a combination of mapping efforts by ERM in March 2022, MRS in December 2022, and SWCA and MRS in May 2023. In addition to this mapping, Arcadis collected detailed vegetation mapping data for the Rail Spur EIR in 2013 and 2015, and the Line 300 Replacement Project in 2019. Both projects partially overlap the current BSA (Arcadis 2013a, 2015a, and 2019). These previous mapping efforts were also reviewed.

A total of 272.82 acres of land cover types were mapped within the BSA, as depicted in Figure 4.4-4 and listed in Table 4.4.1. Of that, 162.71 acres (60 percent) is developed/disturbed. Vegetation types that were mapped within the BSA are described in more detail below.

Table 4.4.1 Vegetation and Land Cover Types in the BSA

Vegetation Alliance and Land Cover Type	Project site (acres)	100-foot Buffer Only (acres)	BSA (acres)
Arroyo willow thickets	0.63	0.00	0.63
Black sage scrub	6.31	0.00	6.31
California buckwheat scrub	5.04	0.00	5.04
Developed / Disturbed	150.66	12.05	162.71
Eucalyptus groves	2.05	1.64	3.69
Iceplant mats	1.68	0.06	1.74
Ornamental plants	1.75	0.71	2.46
Poison oak scrub	3.39	0.57	3.96
Ruderal	10.45	3.17	13.63
Silver dune lupine - mock heather scrub	33.40	33.67	67.08
Wild oats and annual brome grasslands	3.00	2.56	5.56
Grand Total	218.39	54.43	272.82

Figure 4.4-4 Vegetation / Land Cover Types



Arroyo Willow Thickets (*Salix lasiolepis* Shrubland Alliance)

The dominant species in arroyo willow thickets is arroyo willow (*Salix lasiolepis*), often associated with other riparian and coastal sage scrub species such as western sycamore (*Platanus racemosa*), coyote brush, and blue elderberry (*Sambucus nigra*). Vegetation is less than 30 feet tall with an open to continuous canopy layer and variable herbaceous layer. This alliance is typical of stream banks, slope seeps, and along drainages.

Several patches of arroyo willow thickets, totaling 0.63 acres, were identified within the SMR associated with an area used as an evaporation pond for the Refinery and a ponded area formed by runoff from plant operations. A patch of dead and dying arroyo willow was also observed in a slight topographic depression, which was likely the location of an old retention basin. These areas were investigated as potential wetlands and are described in detail in Section 4.4.1.3, Potential Jurisdictional Features, including maps depicting their location within the SMR.

Black Sage Scrub (*Salvia mellifera* - *Artemisia californica* Shrubland)

This alliance is characterized by a dominant presence of black sage associated with other coastal sage scrub species such as California sagebrush, coyote brush, and California buckwheat. The maximum height of shrubs in this alliance is generally six feet. The canopy layer is continuous or intermittent with a variable herbaceous layer. Any associated grasses and herbs are seasonal. Black sage scrub is found on dry slopes and alluvial fans with shallow soils.

This alliance was identified along the northern edge of the BSA in an area where it was codominant in the shrub layer with sand almond, a special-status plant species with a California Rare Plant Rank (CRPR) of 4.3 (Figure 4.4-4). The herbaceous layer was dominated by veldt grass (*Ehrharta calycina*), an invasive perennial grass species known to have negative impacts on native coastal scrub communities. Total cover of this natural community is 6.31 acres. While this alliance has a State Rank of S4, it is considered equivalent to Central Dune Scrub under Holland (1986) which CDFW considers to be a sensitive natural community. This community is known to support special-status plant species such as sand almond, California spineflower (*Mucronea californica*) (CRPR 4.2), and Blochman's ragwort.

California Buckwheat Scrub (*Eriogonum fasciculatum* Shrubland Alliance)

California buckwheat is dominant in the canopy and is found with species such as California sagebrush, coyote brush, and black sage. Shrubs are less than six feet tall, and the canopy is continuous to intermittent with a variable herbaceous layer.

California buckwheat scrub was identified in the southeastern portion of the BSA covering approximately 5.04 acres (Figure 4.4-4). This area encompasses a restoration area with temporary irrigation, where California buckwheat along with other native shrubs, such as coastal bush lupine (*Lupinus arboreus*), had been planted. The site is referred to as the "Coke Pile Remediation" site and was covered under CDP #DRC2012-00015 (approved in 2013). The grading was done under permit # PMT2013-00473 and finalized February 2016. While this alliance has a State Rank of S4, it is considered equivalent to Central Dune Scrub under Holland (1986) which CDFW considers to be a sensitive natural community. No special-status plant species were found in this area during surveys in 2022 and 2023, but it is adjacent to an area where Nipomo Mesa lupine occurs. This vegetation alliance also provides suitable habitat for special-status wildlife species,

such as American badger (*Taxidea taxus*), which was observed in this area shortly after the restoration was put in place between 2013 and 2014.

Developed

The majority of the BSA was composed of Developed/Disturbed land cover type covering approximately 150.66 acres within the Project site and 12.05 acres within the 100-foot buffer area (Figure 4.4-4). This land cover type is characterized by paved and dirt roadways, parking lots, buildings, industrial infrastructure, and petroleum coke storage.

Eucalyptus Groves (*Eucalyptus globulus* Semi-Natural Woodland Stands Alliance)

Eucalyptus groves (*Eucalyptus* spp.) are non-native to California (Cal-IPC rating moderate) and are often associated with other non-native species such as Acacia (*Acacia* spp.), as was identified on the site. The shrub and herbaceous layers are typically sparse to intermittent. Eucalyptus groves are typically planted as windbreaks and are naturalized on uplands or bottomlands and adjacent to streams, lakes, or levees.

Eucalyptus groves occur in the BSA as a strip along the southwestern border, forming a windrow near the railroad entry point on the western side of the BSA (Figure 4.4-4). A total of 3.69 acres was mapped within the BSA, with approximately 2.05 acres occurring within the Project site and 1.64 acres occurring within the 100-foot buffer. The canopy is up to 65 feet tall and is open to continuous. This vegetation alliance is not included in global and state rankings.

Iceplant Mats (*Carpobrotus edulis* or Other Ice Plants Semi-Natural Herbaceous Stands)

Non-native to California (California Invasive Plant Council [Cal-IPC] rating high), iceplant mats are characterized by a high percent coverage of iceplant species (*Carpobrotus chilensis*, *Carpobrotus edulis*). Only an herbaceous layer is present, which is less than 1.5 feet tall, and cover is intermittent to continuous. Emergent trees and shrubs may exist at a low percent coverage.

Iceplant mats were observed in four small areas within the BSA and cover approximately 1.74 acres (Figure 4.4-4). In the southern patch, emergent shrubs consist of poison oak and coyote brush. The small patch in the center of the BSA occurs along a steep slope where the vegetation abruptly transitions from disturbed silver dune lupine–mock heather scrub to iceplant mats. In this area emergent shrubs include mock-heather and coyote brush. This vegetation alliance is not included in global and state rankings.

Ornamental Plants

Ornamental plant land cover was identified in several areas throughout the BSA covering approximately 1.75 acres within the Project site and 0.71 acre within the 100-foot buffer (Figure 4.4-4). These areas are characterized by lawns, landscaped areas, and non-native screening hedges. This area also includes a small stand of planted Monterey pine trees (*Pinus radiata*) around the northern portion of the property.

Poison Oak Scrub (*Toxicodendron diversilobum* Shrubland Alliance)

Poison oak is dominant in this alliance and associated with species such as California sagebrush, coyote brush, black sage, and blue elderberry (*Sambucus mexicana*). Shrubs are less than 13 feet tall with an intermittent to continuous two-tiered canopy. The herbaceous layer is variable. This alliance can be found along the immediate coast or disturbed dry slopes.

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Poison oak scrub was identified along the southwestern portion of the BSA covering 3.96 acres (Figure 4.4-4). This vegetation alliance intermixes with mats of iceplant (*Carpobrotus chilensis*, *Carpobrotus edulis*), but is primarily dominated by poison oak. The poison oak benefited from the abundant rain in 2023 and has also extended into the silver dune lupine–mock heather scrub to the east and into the area mapped as ruderal to the west.

Ruderal

Ruderal land cover is characterized by vegetation that grows on a human-disturbed site and typically includes a majority of invasive or non-native species, though some weedy natives may be present. This land cover type encompasses approximately 10.45 acres within the Project site and 3.17 acres within the 100-foot buffer (Figure 4.4-4).

Silver dune lupine - mock heather scrub (*Lupinus chamissonis* - *Ericameria ericoides* Shrubland Alliance)

Silver dune lupine–mock heather scrub (*Lupinus chamissonis* - *Ericameria ericoides* Shrubland Alliance) consists of dune-heather and/or silver dune lupine dominating the shrub canopy and associated with other coastal sage scrub and dune species such as California sagebrush (*Artemisia californica*), coyote brush (*Baccharis pilularis*), and poison oak (*Toxicodendron diversilobum*). Shrubs are less than three feet tall with an open to continuous canopy. The herbaceous layer is open to intermittent. This alliance can be found on coastal bluffs and terraces, spits along coastlines, river mouths, and sand dunes.

This community is the most common vegetation alliance observed in the BSA and covers 33.4 acres within the Project site and 33.67 acres within the 100-foot buffer area (Figure 4.4-4). Within the BSA, silver dune lupine and/or mock heather often occurred as dominates in the shrub layer with black sage (*Salvia mellifera*), coyote brush, sand almond (*Prunus fasciculata* var. *punctata*), sea cliff buckwheat (*Eriogonum parvifolium*), or California buckwheat (*Eriogonum fasciculatum*). The herbaceous layer was dominated by invasive veldt grass. Silver dune lupine–mock heather scrub has a State Ranking of S3, which is considered a sensitive natural community by the CDFW (CDFW 2023b). This community is known to support special-status plant species including the federally endangered Nipomo Mesa lupine (*Lupinus nipomensis*). Additional special-status plant species that were abundant within this natural community include Blochman’s ragwort (*Senecio blochmaniae*) (CRPR 4.2) and Blochman’s leafy daisy (*Erigeron blochmaniae*) (CRPR 1B.2).

Wild Oats and Annual Brome Grasslands (*Avena* spp. – *Bromus* spp. Semi-Natural Alliance)

Wild oats and annual brome grasslands are composed of varying assemblages of wild oats (*Avena* spp.), and bromes (*Bromus* spp.), which are cool-season annual grasses from Eurasia, with a Cal-IPC rank of moderate. Other non-native annual grass species that are often characteristic of this association are purple false brome (*Brachypodium distachyon*), big quaking grass (*Briza maxima*), and wall barley (*Hordeum murinum*). However, within the BSA veldt grass was also a co-dominant non-native annual grass that was present in these stands. Non-native annual forbs, such as black mustard (*Brassica nigra*), are often codominant with the annual grasses. Cover in this alliance is open to continuous with herbs less than four feet tall. Wild oats and annual brome grasslands are found in all topographic settings in foothills, roadsides, rangelands, and forest openings. While this alliance is primarily composed of non-native species, native annuals are often present.

Within the BSA, this vegetation alliance was mapped along the western border adjacent to the railroad tracks, covering approximately 3.0 acres within the Project site and 2.56 acres within the 100-foot buffer (Figure 4.4-4). These areas also contained emergent shrubs such as coyote bush and mock-heather, and several ruderal species such as black mustard. These areas were similar to the areas classified as ruderal but were changed to grassland because they have the potential to support special-status plant species. This vegetation alliance is not included in global and state rankings.

4.4.1.3 Potential Jurisdictional Features

The following section is based on findings of a wetlands and waters assessment conducted by wetland scientists at ERM (ERM 2023) for the Project site and not the larger BSA. Prior to conducting a field survey, ERM conducted a desktop analysis utilizing the National Wetlands Inventory (NWI) which is a spatial database that relies on trained image analysts to identify and classify wetlands and deepwater habitats from aerial imagery and field verification. In total, five potential jurisdictional features were identified within the Project site using the NWI (USFWS 2023a). No streams or features identified as waters of the US or waters of the state were present within the BSA. The closest are Oso Flaco Creek and a tributary to Oso Flaco Creek, located approximately 0.6 mile southwest of the SMR, at the closest point; refer to Section 4.10, Hydrology and Water Quality, for detailed information on surface and groundwater movement at the SMR.

Further investigation of the potential jurisdictional five features was conducted by ERM wetland scientists on June 20, 2022 (ERM 2023), to determine if they exhibited wetland characteristics following the methodology described in the United States Army Corps of Engineers (USACE) Wetlands Delineation Manual and Arid West Region Supplement (Environmental Laboratory/USACE 1987). This method typically uses a three-parameter approach (soil, hydrology, and vegetation); however, due to potential underground hazards, soil pits were not dug. Instead, soils were assumed to be hydric based on the presence of standing water and obligate wetland plant species.

The investigation conducted by ERM also evaluated each of these features to determine if they qualified as ‘wetlands’ under the definition of the California Coastal Commission. The CCC’s regulations (California Code of Regulations Title 14 (14 CCR)) establish a “one parameter wetland definition” that only requires evidence of a single parameter to establish wetland conditions (14 CCR Section 13577).

Of the five sites identified by the NWI, ERM determined that only three contained features that qualified as potentially jurisdictional by USACE and CCC (PW 1 PW 2, and PW 3; refer to Figure 4.4-5). The remaining two NWI-mapped wetland areas (WL-1, WL-2; refer to Figure 4.4-5), did not exhibit wetland characteristics and therefore are not discussed in the sections below. Furthermore, no other features were identified within the Project site that were not already shown by the NWI. Please refer to Figure 4.4-5 for the location of the three features.

Potential Wetland 1 (PW 1)

PW 1 was identified within the Refinery evaporation pond, located within the Project site, north of the coke stockpile location (Figure 4.4-5, Area 5). PW 1 receives non-contact stormwater that drains from non-industrial areas of the Project site. PW 1 was observed to support 0.63-acre of arroyo willow thickets, a Facultative Wetland Plant (FACW), which means they usually occur in wetlands, but may occur in non-wetlands. Patches of wetland grasses such as tall flatsedge (*Cyperus eragrostis*) (FACW) and rush (*Juncus* sp.) were also observed in the lowest topographic area of the pond. No surface or subsurface indicators of water were observed, and the soils mapped throughout the survey area consisted of excessively drained, non-hydric sandy soils with low available water supply. This feature receives much of its water through a culvert located on the west side. PW 1 only receives water input and stormwater runoff from non-operational areas of the site and is expected to dry out if the stormwater functionality is removed and/or altered through remediation activities. The Project proposes leaving stormwater facilities in place (belowground) and therefore this source of water for the PW 1 would remain. Depths to groundwater (as per Trihydro monitoring Geotracker ID SL203121248 in July 2023) in the vicinity of PW 1 is 32 feet.

Potential Wetland 2 (PW 2)

PW 2 is located at the western end of the petroleum coke storage area within the Project site (Figure 4.4-5). As part of Refinery operations, water is regularly sprayed onto the petroleum coke to prevent high winds from dispersing the fine dust and to cool the coke to prevent fires. PW 2 was observed to contain a 0.6-acre area of artificial ponding in a depression adjacent to a petroleum coke stockpile where the water from spraying the petroleum coke collects. The surrounding vegetation was composed of upland species such as iceplant, pampas grass, veldt grass, and coyote brush, and some wetland species, including arroyo willow, hardstem bulrush (*Schoenoplectus acutus*; OBL), water beard grass (*Polypogon viridis*; FACW), and rabbitsfoot grass (*Polypogon monspeliensis*; FACW). Wetland hydrology was observed as biotic crust and standing water. The only water input observed was the coke stockpile wetting; no discharges or drainages were observed. Depths to groundwater (as per Trihydro monitoring Geotracker ID SL203121248 in July 2023) in the vicinity of PW 2 ranges from 40–45 feet.

Once the remaining salable coke product is removed from the site, there would no longer be a water input into this area other than rain and possibly some localized drainage. It is expected that PW 2 would dry out, even with rain input, due to the presence of dune land soils throughout much of the BSA (Figure 4.4-3) and the depths to groundwater.

Potential Wetland 3 (PW 3)

PW 3, identified via aerial imagery, is located in the central area of the petroleum coke storage area within the BSA (Figure 4.4-5). This area was previously wetted in the same way as PW 2. Wetting of the coke stockpiles was suspended in this area in 2015. A review of aerial (drone) photographs of PW 3 from May 2022 and field observations performed on 20 June 2022 confirmed that this area has dried out. Patches of upland species such as pampas grass and coyote bush were observed scattered around the site. A small patch of dead and dying arroyo willow was observed in a depression. No federal or state jurisdictional aspects were noted; therefore, this feature is not discussed further.

Figure 4.4-5 Potentially Jurisdictional Features



In conclusion, both PW 1 and PW 2 receive sufficient surface water throughout the year to support hydrophytic vegetation. The source of the surface water is a result of rainfall on the developed

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areas of the facility, and maintenance of the coke stockpile (wastewater from the facility is directed offshore through an outfall line, see Section 4.10, Hydrology and Water Quality). The soils on the site are highly permeable and surface water in the ponds is temporary, dependent on rainfall amounts and maintenance of the coke pile. Groundwater is 32–45 feet below the soil surface. Data collected during the wetland delineation (ERM 2023) found PW 1 had no surface or subsurface indicators of water observed, and the soils mapped throughout the survey area consist of excessively drained, non-hydric sandy soils with low available water supply, and therefore it was determined that the PW 1 feature would not be regulated by the USACE due to lack of wetland hydrology, and because of lack of connectivity to traditional navigable water (or lack of adjacency to a tributary to a traditional navigable water). PW 2 was also determined to lack hydric soils, and as it is an isolated feature not hydrologically connected to a traditional navigable water, it would not fall under the jurisdiction of the USACE.

They do meet the one parameter criteria for CCC wetlands, although according to the CCC definition:

Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes (see Section 4.4.2, Regulatory Setting).

Since the hydrophytic vegetation is only supported by surface water runoff from hardscape or maintenance activities, and not groundwater, these areas do not meet the CCC definition of wetlands.

4.4.1.4 Sensitive Natural Communities

Sensitive Natural Community is a statewide designation given by the CDFW to specific vegetation associations of ecological importance. Rarity and ranking of Sensitive Natural Communities involves the knowledge of range and distribution of a given type of vegetation, and the proportion of occurrences that are of good ecological integrity (CDFW 2023b). Evaluation is conducted at both the Global (G) and State (S) levels, resulting in a rank ranging from 1 for very rare and threatened to 5 for demonstrably secure. Natural Communities with ranks of S1 through S3 are considered Sensitive Natural Communities in California and need to be addressed in the environmental review process of CEQA.

The vegetation alliances within CDFW's current ranking system (CDFW 2023b) are based on the vegetation classification system described in the Manual of California Vegetation, 2nd edition (MCV2) (Sawyer et al. 2009). It is a hierarchical classification based on dominant plant species grouped, at the lowest level, into plant alliances and plant associations (several associations may be under an alliance). Based on this classification system one sensitive natural community alliance with a rarity ranking of S3 was mapped within the BSA: Silver dune lupine - mock heather scrub (*Lupinus chamissonis* - *Ericameria ericoides* Shrubland Alliance).

In addition to the current CDFW ranking system, the California Natural Diversity Database (CNDDDB) historically tracked sensitive natural communities (previously referred to as natural communities of special concern) based on Holland's (1986) vegetation classification system. While the MCV2 vegetation classification system is intended to replace the Holland system, there

are many areas of California that have not yet been mapped, including Guadalupe-Nipomo Dunes. For unclassified areas of the state, an alliance or association may be identified as provisional when sufficient data exists to propose the vegetation type. However, there may not be enough research and regional information to rank the status of the provisional alliance or association. In such cases, sensitive natural communities identified in the CNDDDB, which still uses the Holland system should still be addressed under CEQA. The CNDDDB search identified that Central Dune Scrub sensitive habitat was mapped in the northern portion of the site (Figure 4.4-6; CDFW 2023a). This sensitive habitat includes several native California vegetation alliances, including the silver dune lupine - mock heather scrub described above and extends into the area mapped as black sage scrub and California buckwheat scrub.

Designated Critical Habitat

No designated critical habitat (USFWS 2023a) was identified within the Project site. However, a final critical habitat designation was issued in 2009 for La Graciosa thistle (*Cirsium scariosum* var. *loncholepis*), a plant federally- and state-listed as endangered in 2000 (USFWS 2023b) that marginally overlaps with the western boundary of the BSA west of the railroad but does not fall within the Project site (Figure 4.4-6).

Environmentally Sensitive Habitat Areas (ESHA)

Coastal Zone Land Use Ordinance (CZLUO) Section 23.07.170 describes the provisions that apply to development within or adjacent to (within 100 feet of the boundary of) an Environmentally Sensitive Habitat Area (ESHA) as defined by Section 23.11. Section 23.11 defines both Mapped ESHA and Unmapped ESHA. These definitions are further defined in Section 4.4.2.3 below.

Mapped ESHA

A Coastal Act/Local Coastal Program-designated ESHA, referred to as San Luis Bay ESHA, was mapped to the west of the railroad (Figure 4.4-5; County 2022).

Unmapped ESHA

Title 23 of the County Code, CZLUO, Local Coastal Program (County 2022), defines Unmapped ESHA as:

A type of Sensitive Resource Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and development. They include, but are not limited to, known wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats that may not be mapped as Land Use Element combining designations. The existence of Unmapped ESHA is determined by the County at or before the time of application acceptance and shall be based on the best available information. Unmapped ESHA includes but is not limited to:

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Figure 4.4-6 Sensitive Natural Communities and Critical Habitat



- a. *Areas containing features or natural resources when identified by the County or County approved expert as having equivalent characteristics and natural function as other mapped environmental sensitive habitat areas;*
- b. *Areas previously known to the County from environmental experts, documents or recognized studies as containing ESHA resources; and*
- c. *Other areas commonly known as habitat for species determined to be threatened, endangered, or otherwise needing protection.*

The County conducted an independent assessment of the BSA to determine areas of unmapped ESHA prior to the acceptance of the application for the Project by the County. MRS Senior Botanist, Lauren Brown, reviewed existing documents and conducted a site visit on December 8, 2022, for the purpose of assessing what areas within the BSA should be categorized as unmapped ESHA (Appendix D).

The assessment identified the presence of sensitive species and other resources in the BSA to include potential wildlife habitat, the potential for resources from adjacent areas to move into and utilize areas with sandy soils and vegetation and the presence of isolated species within areas designated as ornamental, ice plant and ruderal. Given these factors, it was determined that all areas outside of the developed portions of the facility meet the definition of unmapped ESHA (Figure 4.4-7) as they: a) exhibit equivalent characteristics and natural function as mapped ESHA to the west of the SMR facility, as well as habitat to the north and east that supports Nipomo lupine; b) have been documented as containing ESHA resources, including sensitive habitat types and wetlands; and c) have been documented as containing species and habitat for species determined to be threatened, endangered, or otherwise needing protection (see Appendix D).

4.4.1.5 Special-Status Plant Species

For the purposes of this section, special-status plant species are defined as the following:

- Plants that are listed or proposed for listing as threatened or endangered under the Federal Endangered Species Act (FESA) (50 Code of Federal Regulations [CFR] Section 17.12 for listed plants and various notices in the Federal Register for proposed species);
- Plants that are candidates for possible future listing as threatened or endangered under the FESA;
- Plants that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines Section 15380);
- Plants that are considered by CDFW and CNPS to be “rare, threatened, or endangered” in California (CRPR 1, 2, and 3);
- Plants that are listed by CNPS as plants about which more information is needed and plants of limited distribution (CRPR 4);

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- Plants that are listed or proposed for listing by the State of California as threatened or endangered under the California Endangered Species Act (CESA) (14 CCR Section 670.5); and
- Plants that are listed under the California Native Plant Protection Act (NPPA; California Fish and Game Code [CFGF] Section 1900 et seq.).

Based on the CNDDDB query, CNPS Online Inventory, and review of other background literature sources, a total of 92 sensitive plant species have been documented in the Oceano USGS quadrangle and surrounding 7 quadrangles (refer to Appendix B special-status species tables). The list of sensitive plant species considered in Appendix B is regional; therefore, a preliminary analysis of the listed species was conducted to identify which species have the potential to occur in or near the BSA. The preliminary analysis evaluated the known range and habitat preferences of the species in comparison to the existing habitat type present/absent, elevation, and soils within the BSA. Based on this preliminary analysis, it was determined that potentially suitable conditions occur within the BSA for 30 special-status plant species and marginal conditions are present in the BSA for five additional species. These species are listed in Table 4.4.2 below.

Figure 4.4-7 Environmentally Sensitive Habitat Areas (ESHA)



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Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
red sand-verbena <i>Abronia maritima</i>	Perennial herb that occurs in coastal dunes. Elevation: 0–100 meters.	Feb—Nov	--/--/4.2	Marginal Conditions Present, Species Absent: There is marginally suitable dune habitat in the BSA. Species was not observed during 2022 or 2023 botanical surveys.
Aphanisma <i>Aphanisma blitoides</i>	Coastal bluff scrub, coastal dunes, coastal scrub. On bluffs and slopes near the ocean in sandy or clay soils. Elevation: 10–1,000 feet (3–305 meters). Channel Islands and immediate coast.	Feb–Jun	--/--/1B.2	Suitable Conditions Present, Species Absent: Suitable coastal scrub habitat occurs in the BSA, but it is outside of its known range (no occurrences in the County). Species was not observed during 2022 or 2023 botanical surveys.
sand mesa manzanita <i>Arctostaphylos rudis</i>	Evergreen shrub; maritime chaparral and coastal scrub with sandy soils. Elevation: 82–1,056 feet (25–322 meters).	Nov–Feb	--/--/1B.2	Suitable Conditions Present, Species Absent: Suitable habitat occurs within the BSA. No manzanita species were observed during 2022 and 2023 botanical surveys.
Marsh sandwort <i>Arenaria paludicola</i>	Annual herb that occurs in freshwater marshes and wetlands. Growing up through dense mats of cattails, rushes, and Tule rushes in freshwater marsh. Elevation: 10–170 meters.	Mar–Apr	FE/SE/1B.1	Suitable Conditions Absent, Species Absent: The BSA does not support the appropriate mesic conditions for this species. Species was not observed during 2022 or 2023 botanical surveys.
Ocean bluff milk-vetch <i>Astragalus nuttallii</i> var. <i>nuttallii</i>	Perennial herb that occurs on coastal bluffs and dunes. 3—20 meters	Jany–Nov	--/--/4.2	Suitable Conditions Present, Species Present: The species was observed in two locations along the northeastern portion of the buffer area outside of the Project site during the rare plant surveys conducted in 2023. Also noted on the 2022 plant list, but not as the rare varietal.
Brewer's calandrinia <i>Calandrinia breweri</i>	Annual herb that occurs in chaparral, coastal scrub in burned areas, disturbed areas, loam (sometimes), or sandy (sometimes) soils. 10–1,220 meters	(Jan) Mar—Jun	--/--/4.2	Suitable Conditions Present, Species Absent: Potentially suitable habitat in coastal scrub. Species was not observed during 2022 or 2023 botanical surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/State/CNPS	Rationale for Expecting Presence or Absence
California jewelflower <i>Caulanthus californicus</i>	Annual herb that occurs in nonnative grassland, upper Sonoran subshrub scrub, and cismontane juniper woodland and scrub communities in subalkaline and sandy loam soils. Current known naturally-occurring populations are in: (1) Santa Barbara Canyon, (2) the Carrizo Plain, and (3) the Kreyenhagen Hills in Fresno County. 21–870 meters.	Feb–May	FE/SE/1B.1	Suitable Conditions Absent, Species Absent: BSA not located adjacent to known populations. Outside of current range. Not observed during 2022 or 2023 botanical surveys.
Lompoc ceanothus <i>Ceanothus cuneatus</i> var. <i>fascicularis</i>	Perennial evergreen shrub. Occurs in chaparral on sandy soils. Elevation: 15–1,310 feet (5–400 meters).	Feb–Apr	--/--/4.2	Suitable Conditions Present, Species Absent: This perennial species would have been noticeable and identifiable throughout the year and was not observed during 2022 or 2023 botanical surveys.
Santa Barbara ceanothus <i>Ceanothus impressus</i> var. <i>impressus</i>	Perennial shrub; chaparral on sandy soils. Elevation: 131–1,542 feet (40–470 meters).	Feb–Apr	--/--/1B.2	Suitable Conditions Present, Species Absent: This perennial species would have been noticeable and identifiable throughout the year and was not observed during 2022 or 2023 field surveys.
Nipomo Mesa ceanothus <i>Ceanothus impressus</i> var. <i>nipomensis</i>	Chaparral. Canyons, flats. Sandy substrates. Elevation: <650 feet.	Feb–Apr	--/--/1B.2	Suitable Conditions Present, Species Absent: This perennial species would have been noticeable and identifiable throughout the year and was not observed during 2022 or 2023 botanical surveys.
coastal goosefoot <i>Chenopodium littoreum</i>	Annual herb that occurs on coastal dunes. 10–30 meters.	Apr–Aug	--/--/1B.2	Suitable Conditions Present, Species Present: Plants were observed between the entry roads during surveys in 2023 by SWCA.
Chorro Creek bog thistle <i>Cirsium fontinale</i> var. <i>obispoense</i>	Chaparral, cismontane woodlands; serpentine seeps or bogs. 35–380 meters	Feb–Jul	FE/SE/1B.2	Suitable Conditions Absent, Species Absent: Suitable serpentine substrate absent. Not observed during 2022 and 2023 rare plant surveys.

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Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
compact cobwebby thistle <i>Cirsium occidentale</i> var. <i>compactum</i>	A perennial herb that occurs in chaparral, coastal dunes, coastal prairie, and coastal scrub. 5–150 meters	Apr–Jun	--/--/1B.2	Suitable Conditions Present, Species Absent: The coastal scrub habitat potentially provides suitable habitat. Not observed during 2022 and 2023 rare plant surveys.
surf thistle <i>Cirsium rhothophilum</i>	Coastal dunes, coastal bluff scrub, and open areas in central dune scrub; usually in coastal dunes. Known from dunes at Pismo Beach, Nipomo, and Santa Barbara County. Endemic to Central Coast (Santa Barbara and San Luis Obispo Counties). Elevation: 10–197 feet (3–60 meters).	Apr–Jun	--/ST/1B.2	Suitable Conditions Present, Species Absent: The coastal scrub habitat potentially provides suitable habitat. Not recorded on the site and not observed during 2022 and 2023 rare plant surveys.
La Graciosa thistle <i>Cirsium scariosum</i> var. <i>loncholepis</i>	Cismontane woodland, coastal dunes, coastal scrub, marshes and swamps (brackish), and valley and foothill grassland; usually in mesic, sandy soils. Elevation: 13–722 feet (4–220 meters).	May–Aug	FE/ST/1B.1	Suitable Conditions Absent, Species Absent: The BSA does not support mesic conditions necessary for this species. Not recorded on the site and not observed during 2022 or 2023 rare plant surveys.
seaside cistanthe <i>Cistanthe maritima</i>	An annual herb that occurs in coastal bluff scrub, coastal scrub, and valley and foothill grasslands, typically in sandy soil. 5–300 meters.	Mar–Jun	--/--/4.2	Suitable Conditions Present, Species Absent: The coastal scrub habitat potentially provides suitable habitat. Not recorded on the site and not observed during 2022 and 2023 rare plant surveys.
Pismo clarkia <i>Clarkia speciosa</i> ssp. <i>immaculata</i>	Sandy soils, openings in chaparral, cismontane woodland, valley, and foothill grassland. On ancient sand dunes not far from the coast. 25–185 meters.	May–Jul	FE/SR/1B.1	Marginal Conditions Present, Species Absent: The coastal scrub habitat potentially provides suitable habitat. Not recorded on the site and not observed during 2022 and 2023 rare plant surveys.
salt marsh bird's-beak <i>Cordylanthus maritimus</i> ssp. <i>maritimus</i>	Annual herb; occurs in marshes and swamps on coastal dunes. 0–30 meters	May–Oct	FE/SE/1B.2	Suitable Conditions Absent, Species Absent: The BSA does not support mesic conditions necessary for this species. Not observed during 2022 or 2023 rare plant surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/State/CNPS	Rationale for Expecting Presence or Absence
Gaviota tarplant <i>Deinandra increscens</i> ssp. <i>villosa</i>	Annual herb in the Asteraceae family; coastal bluff scrub, coastal scrub, and valley and foothill grassland, typically associated with sandy soils. Elevation: 115–1,411 feet (35–430 meters).	May–Oct	FE/SE/1B.1	Marginal Conditions Present, Species Absent: Although soils are appropriate for this species, it is outside of its known range. Not recorded on the site and not observed during 2022 or 2023 rare plant surveys.
paniculate tarplant <i>Deinandra increscens</i> ssp. <i>villosa</i>	Coastal scrub, valley and foothill grassland, coastal bluff scrub. Known from coastal terrace near Gaviota; sandy blowouts amid sandy loam soil; grassland/coast scrub ecotone. Elevation: 33–1,411 feet (10–430 meters).	May–Oct	--/--/4.2	Marginal Conditions Present, Species Absent: Although potentially suitable habitat exists in the coastal scrub, it is outside of its known range and not observed during 2022 or 2023 rare plant surveys.
dune larkspur <i>Delphinium parryi</i> ssp. <i>blochmaniae</i>	Perennial herb; maritime chaparral and coastal dunes with sandy or rocky soils. Elevation: 0–656 feet (0–200 meters).	Apr–May	--/--/1B.2	Suitable Conditions Present, Species Present: The maritime chaparral habitat and sandy soils makes areas of the BSA suitable. Species was found in the buffer area adjacent to the access road during 2023 botanical surveys.
western dichondra <i>Dichondra occidentalis</i>	Perennial rhizomatous herb that occurs in chaparral, cismontane woodland, coastal scrub, and valley and foothill grasslands. 3–50 meters	Mar–May	--/--/1B.1	Suitable Conditions Present, Species Absent: The coastal scrub habitat is suitable for this species, but it was not observed during 2022 or 2023 rare plant surveys.
beach spectaclepod <i>Dithyrea maritima</i>	Coastal dunes, coastal scrub, seashores, sand dunes, and sandy places near the shore. Elevation: 10–164 feet (3–50 meters).	Mar–May	--/ST/1B.1	Marginal Conditions Present, Species Absent: The coastal scrub habitat does not contain areas of undisturbed dunes suitable for this species. Site is highly invaded by veldt grass. Not observed during 2022 or 2023 rare plant surveys.
Blochman’s leafy daisy <i>Erigeron blochmaniae</i>	Perennial rhizomatous herb; coastal dunes and coastal scrub on sandy soils. Elevation: 10–148 feet (3–45 meters).	Jul–Aug	--/--/1B.2	Suitable Conditions Present, Species Present: Suitable habitat occurs on site in coastal dune scrub and was observed during 2022 and 2023 botanical surveys.

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Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/ State/CNPS	Rationale for Expecting Presence or Absence
Indian knob mountainbalm <i>Eriodictyon altissimum</i>	Evergreen shrub. Occurs in maritime chaparral, cismontane woodland, and coastal scrub with sandstone substrates. 80–270 meters	Mar–Jun	FE/SE/1B.1	Suitable Conditions Absent, Species Absent: No suitable habitat present in BSA. BSA is outside of the species elevational range. Not observed during 2022 or 2023 rare plant survey.
elegant wild buckwheat <i>Eriogonum elegans</i>	Annual herb that occurs in cismontane woodlands and valley and foothill grasslands in areas that are gravelly (usually), along roadsides (sometimes), and in sandy soils (usually) and washes (often). 200–1,525 meters.	May–Nov	--/--/4.3	Suitable Conditions Absent, Species Absent: Suitable habitat is present, but the BSA is outside of the species elevational range. Not observed during 2022 or 2023 rare plant surveys.
suffrutescent wallflower <i>Erysimum suffrutescens</i>	Perennial herb; Chaparral (maritime), Coastal bluff scrub, Coastal dunes, Coastal scrub. Elevation: 0–490 feet (0–150 meters).	Jan–Jul (Aug)	--/--/4.2	Suitable Conditions Present, Species Absent: Suitable habitat is present. Not observed during 2022 or 2023 rare plant surveys.
mesa horkelia <i>Horkelia cuneata</i> ssp. <i>puberula</i>	Perennial herb; chaparral, cismontane woodlands, and coastal scrub in sandy or gravelly sites. Elevation: 230–2,658 feet (70–810 meters).	Feb–Sept	--/--/1B.1	Suitable Conditions Present, Species Absent: Suitable habitat present in BSA, but outside of elevational range of species. Not observed during 2022 and 2023 rare plant surveys.
Kellogg’s horkelia <i>Horkelia cuneata</i> ssp. <i>sericea</i>	Perennial herb; closed-cone coniferous forest, maritime chaparral, and coastal scrub with sandy or gravelly openings. Elevation: 33–656 feet (10–200 meters).	Apr–Sept	--/--/1B.1	Suitable Conditions Present, Species Absent: Suitable habitat present in BSA. Not observed during 2022 and 2023 rare plant surveys.
fuzzy prickly-phlox <i>Linanthus californicus</i> ssp. <i>tomentosus</i>	Perennial deciduous shrub that occurs in coastal dune habitats. 1–185 meters.	Mar–Aug	--/--/4.3	Suitable Conditions Present, Species Potentially Present: <i>Linanthus californicus</i> was observed during 2022 and 2023 rare plant surveys, but it was not identified to subspecies, therefore, absence cannot be ruled out.
Nipomo Mesa lupine <i>Lupinus nipomensis</i>	Annual herb. Occurs in coastal dunes. 10–50 meters	Dec–May	FE/SE/1B.1	Suitable Conditions Present, Species Present: The coastal dune/scrub habitat is suitable for this species. Observed during 2022 and 2023 botanical surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/State/CNPS	Rationale for Expecting Presence or Absence
dunedelion <i>Malacothrix incana</i>	Perennial herb that occurs in coastal dunes and coastal scrub habitats. 2–35 meters	Apr–Oct	--/--/4.3	Suitable Conditions Present, Species Absent: Suitable habitat is present, but it was not observed during 2022 and 2023 rare plant surveys.
southern curly-leaved monardella <i>Monardella sinuata</i> ssp. <i>sinuata</i>	Annual herb; sandy soil among chaparral, cismontane woodland, coastal dunes, and coastal scrub with openings. Elevation: 0–984 feet (0–300 meters).	Apr–Sept	--/--/1B.2	Suitable Conditions Present, Species Absent: Suitable habitat is present, but it was not observed during 2022 and 2023 rare plant surveys.
crisp monardella <i>Monardella undulata</i> ssp. <i>crispa</i>	Perennial and rhizomatous herb; coastal dunes among coastal scrub and maritime chaparral. Elevation: 33–394 feet (10–120 meters).	Apr–Aug	--/--/1B.2	Suitable Conditions Present, Species Absent: Suitable habitat is present. There are two CNPS occurrence from 1987 adjacent to the access road, but it was not observed during 2022 and 2023 rare plant surveys.
San Luis Obispo monardella <i>Monardella undulata</i> ssp. <i>undulata</i>	Perennial and rhizomatous herb; coastal dunes among coastal scrub and maritime chaparral on sandy substrates. Elevation: 33–656 feet (10–200 meters).	May–Sept	--/--/1B.2	Suitable Conditions Present, Species Absent: Suitable habitat is present. Not observed during 2022 and 2023 rare plant surveys.
California spineflower <i>Mucronea californica</i>	Chaparral, woodland, coastal scrub, grassland. Sandy soil. Elevation: <3,280 feet.	Mar–Aug	--/--/4.2	Suitable Conditions Present, Species Present: Species was observed in the BSA during the 2022 and 2023 botanical surveys.
Gambel’s water cress <i>Nasturtium (Rorippa) gambelii</i>	Rhizomatous herb; marshes and swamps (freshwater or brackish). Elevation: 16–1,083 feet (5–330 meters).	Apr–Oct	FE/ST/1B.1	Suitable Conditions Absent, Species Absent: The BSA does not support mesic conditions necessary for this species. Not observed during 2022 and 2023 rare plant surveys.
spreading Navarretia <i>Navarretia fossalis</i>	Annual herb occurs in chenopod scrub, marshes and swamps (assorted shallow freshwater), playas, and vernal pools. 30–655 meters.	Apr–Jun	FT/--/1B.1	Suitable Conditions Absent, Species Absent: The BSA does not support mesic conditions necessary for this species. Not observed during 2022 and 2023 rare plant surveys.

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Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/State/CNPS	Rationale for Expecting Presence or Absence
coast woolly-heads <i>Nemacaulis denudata</i> var. <i>denudata</i>	Annual herb that occurs on coastal dunes. 0–100 meters	Apr–Sept	--/--/1B.2	Suitable Conditions Present, Species Absent: Two CNPS occurrences adjacent to Oso Flaco Lake. Suitable coastal dune habitat in BSA, but not observed during 2022 and 2023 rare plant surveys.
Monterey pine <i>Pinus radiata</i>	Evergreen tree that occurs in closed-cone coniferous forest and cismontane woodland. Only native stands restricted to Año Nuevo, Cambria, and Monterey Peninsula. Elevation: 25–185 meters.	NA	--/--/1B.1	Suitable Conditions Present, Species Present (planted): Planted Monterey Pines occur around the northern portion of the property, but these are planted individuals and not considered a rare native stand. However, all mature trees are protected under CZLUO Section 23.05.062.
sand almond <i>Prunus fasciculata</i> var. <i>punctata</i>	Perennial shrub that occurs in chaparral and coastal scrub on coastal dunes. Elevation: 49–656 feet (15–200 meters).	Mar–Apr	--/--/4.3	Suitable Conditions Present, Species Present: Suitable habitat occurs on site and it was mapped in several locations in the BSA during the 2022 and 2023 rare plant surveys.
black-flowered figwort <i>Scrophularia atrata</i>	Closed-cone coniferous forest, chaparral, coastal dunes, coastal scrub, riparian scrub; around swales and in sand dunes; and sand, diatomaceous shale, and soils derived from other parent material. Elevation: 33–820 feet (10–250 meters).	Mar–Apr	--/--/1B.2	Suitable Conditions Present, Species Absent: Suitable habitat occurs on site. Not observed during the 2022 and 2023 rare plant surveys.
Blochman’s ragwort <i>Senecio blochmaniae</i>	Perennial herb; coastal dunes. Elevation: 0–330 feet (0–100 meters).	May–Oct	--/--/4.2	Suitable Conditions Present, Species Present: Suitable habitat occurs on site, and it was mapped in several locations in the BSA during the 2022 and 2023 rare plant surveys.

Table 4.4.2 Special-Status Plant Species with Suitable Habitat Present in BSA

Species Name	Habitat and Distribution	Flower Season	Legal Status Federal/State/CNPS	Rationale for Expecting Presence or Absence
San Bernardino aster <i>Symphotrichum defoliatum</i>	Rhizomatous herb; meadows and seeps, cismontane woodland, coastal scrub, and foothill grassland. Vernal mesic grassland or near ditches and springs. Elevation: 7–6,693 feet (2–2,040 meters).	Jul–Nov	--/--/1B.2	Marginal Conditions Present, Presumed Absent: No suitable wetland habitat occurs on site. No known occurrences in San Luis Obispo County. Closest is in Santa Barbara County near Vandenberg Space Force Base. It has never been recorded in coastal dune habitat and is unlikely to occur.

Sources: Baldwin et al. 2012. All plant descriptions paraphrased from CNPS 2023a

Status Codes:

-- = No status; **Federal:** FE = Federal Endangered; FT = Federal Threatened; **State:** SE = State Endangered; ST = State Threatened; SR = State Rare; **CNPS CRPR:** *1B* = rare, threatened, or endangered in California and elsewhere; *2* = rare, threatened, or endangered in California, but more common elsewhere; *3* = plants that about which more information is needed; *4* = a watch list plants of limited distribution; **Threat Code:** *0.1* = Seriously endangered I California (over 80% of occurrences threatened / high degree and immediacy of threat); *0.2* = Fairly endangered in California (20%–80% occurrences threatened); *0.3* = Not very endangered in California (<20% of occurrences threatened or no current threats known)

Rationale Terms: *Species Present:* Species was or has been observed in the survey area. *Species Absent:* Based on appropriate survey efforts, absence of the species was confirmed. *Suitable Conditions Present:* The appropriate habitat, soils, and elevation are present in the survey area. *Marginal Conditions Present:* The appropriate habitat and/or soils are present but other factors (past disturbances, elevation range) may preclude species occurrence. *Suitable Conditions Absent:* The survey area did not support the appropriate habitat, soils, and/or elevation for the species.

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Focused botanical surveys were conducted within the Project site (minus the access roads) by ERM biologists on March 10 and June 20, 2022. Additional surveys were conducted by MRS and SWCA biologists on May 1, 2023, and SWCA biologists on May 4 and 11, 2023. These additional surveys by SWCA and MRS included the entire BSA (i.e., the Project site, including the access road, and the 100-foot buffer area). The results of these surveys collectively documented eight special-status plant species within the BSA: Nipomo Mesa lupine (*Lupinus nipomensis*), Blochman's leafy daisy (*Erigeron blochmaniae*), dune larkspur (*Delphinium parryi* subsp. *blochmaniae*), Blochman's ragwort (*Senecio blochmaniae*), California spineflower (*Mucronea californica*), sand almond (*Prunus fasciculata* var. *punctata*), and ocean bluff milk-vetch (*Astragalus nuttallii* var. *nuttallii*). These species and their occurrence in the BSA are discussed in more detail below.

Additional spring surveys in 2024 are ongoing at this time.

Special-Status Plant Taxa Observed in the BSA

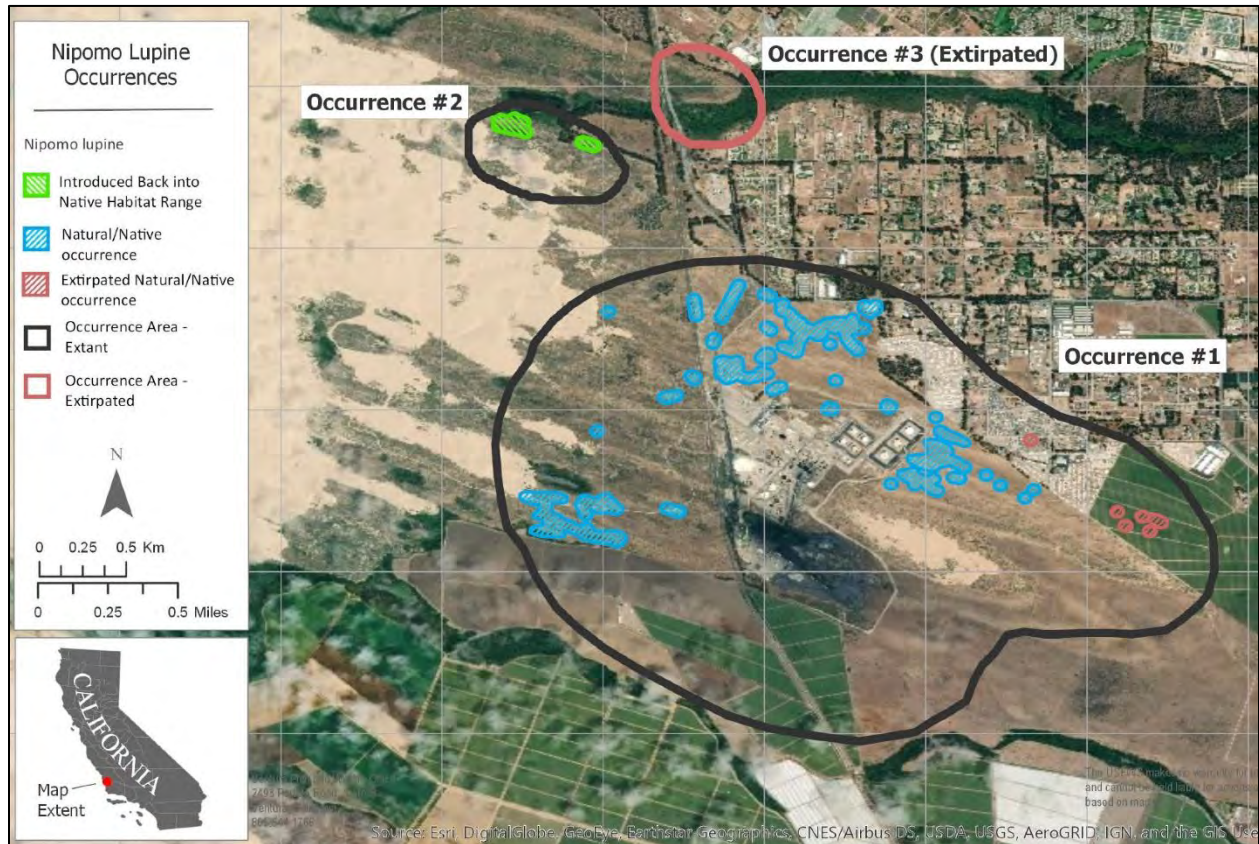
Federally Listed Plants

Nipomo Mesa Lupine

Nipomo Mesa lupine (*Lupinus nipomensis*) is Federally listed as Endangered, State listed as Endangered, and has a CRPR of 1B.1, a plant of limited distribution that is seriously endangered in California. It is a highly endemic annual herb in the Fabaceae family. The species range is situated behind the Callender Dune sheet, which is one of three dune formations that comprise the Guadalupe-Nipomo Dunes Complex (USFWS 2021). The species is known from a single population that is currently recognized as three separate occurrences in the CNDDDB (USFWS 2020; CNDDDB 2023). All of the extant colonies are located west of State Route 1 (USFWS 2021). See Figure 4.4-8. What the USFWS Recovery Plan (2021) refers to as Occurrence #1 (Figure 4.4-8), is the primary Nipomo Mesa lupine occurrence and occurs almost entirely on land currently owned by Phillips 66 (see Recovery Plan [USFWS 2021] and Figure 2 in USFWS 2020 [Species Report]), which shows the geographic distribution and status of Occurrence #1). Occurrence #1 is bisected north to south by the Union Pacific Railroad (see Figure 4.4-1) and the BSA is approximately situated in the middle of the extant occurrence area delineated by USFWS (2020).

All of the extant colonies occur in coastal dune scrub vegetation with at least some mock heather as the dominant shrub overstory (USFWS 2020). Coastal dune scrub vegetation with a relatively high diversity of native forbs appears to be the ideal habitat for Nipomo Mesa lupine. More specifically, it occurs between or at the bases of stabilized dunes and seems to prefer pockets of open sand between widely spaced individuals of dune-heather, often mixed with other annuals and herbaceous perennials (USFWS 2020). Furthermore, it has an affinity for cooler temperatures and is often found near the bottom of north and east-facing slopes and in the lower basins of shallow dune swales (USFWS 2020).

Figure 4.4-8 Nipomo Mesa Lupine Occurrences



Source: USFWS 2021

Nipomo Mesa lupine fruits are legumes (like a conventional pea pod). Because it has a hard, orthodox seed, it likely has a persistent seed bank (USFWS 2020). This means that the seeds are generally able to remain dormant in the wild until germination is stimulated by suitable moisture or other environmental conditions. Therefore, germination, and thus the observed distribution, is dependent on adequate and seasonally timed rainfall events.

Species abundance in annuals is notoriously variable from year to year and the observed distribution in any given year does not always accurately represent its full distribution across habitats. The Land Conservancy of San Luis Obispo County (LC-SLO) has conducted annual census surveys of the Nipomo lupine colonies within Occurrence #1 from 2007 to 2017. During this time, the total number of individuals ranged from 139 to 1,677 with the number of reproducing individuals ranging from 63 to 759 (or 10 percent to 66 percent of the total number of individuals counted). Given this information, and the occurrence of a persistent seed bank, it is difficult to fully delineate the spatial extent of occupied habitat without multiple years of surveys during varying weather conditions. Ten years typically encompasses the full range of wet and dry year variation in coastal California (USFWS 2021).

The primary threats to Nipomo Mesa lupine include displacement and habitat loss from invasive species (especially perennial veldt grass), development activities, seed predation, stochastic loss and extinction, and climate change. The invasion of veldt grass was determined to be the single

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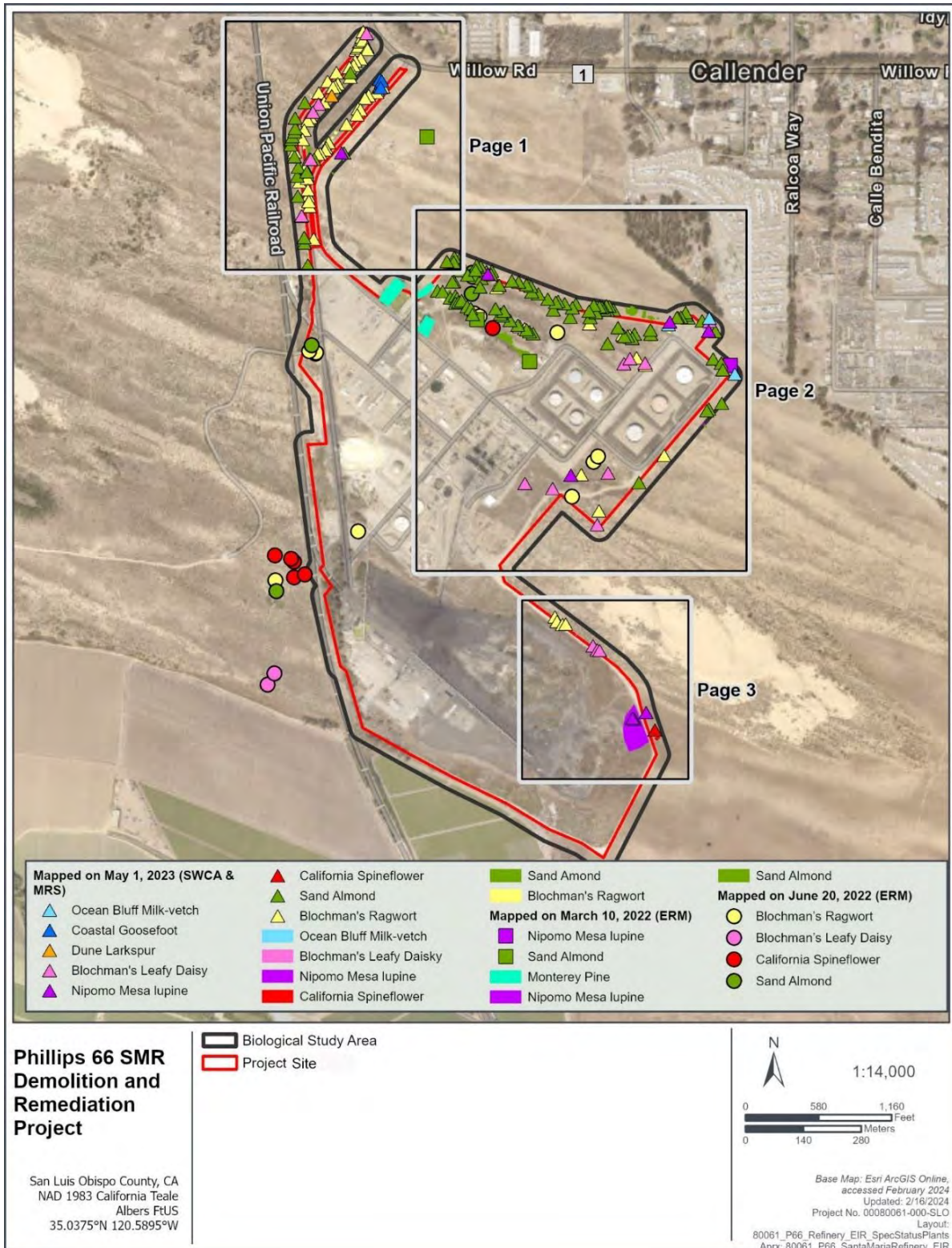
largest threat to the species (USFWS 2021). Veldt grass disrupts natural dune stabilization processes, contributes large amounts of biomass to the system, and suppresses germination of native annual species, including Nipomo Mesa lupine (USFWS 2020). Germination is suppressed due to competition for space, sunlight, water and nutrients (California Invasive Plant Council [Cal-IPC] 2023). If allowed to persist, veldt grass can completely close the canopy and would dominate all of the open space within stands of coastal dune scrub vegetation, thereby reducing biodiversity by suppressing persistence of native, annual forbs. If a veldt grass invasion is not consistently managed, veldt grass could easily extirpate the extant Nipomo Mesa lupine population (USFWS 2023a).

The Final USFWS Recovery Plan for Nipomo Mesa lupine (2021) outlines recovery criteria for each occurrence. Currently, Occurrence #1 is the largest original, extant occurrence and is crucial to the recovery of the species (USFWS 2021). Based on expert opinion, a resilient state for Occurrence #1 is defined as not fewer than 1,000 reproducing individuals distributed across the spatial extent of the occurrence. Recovery actions outlined to for this species include: 1) protecting all currently unprotected habitat where the species occurs; 2) conducting outplanting activities at suitable sites to establish new occurrences; 3) managing habitat to reduce threats from non-native species (particularly veldt grass); and 4) collecting seed and deposit accessions into a permanent conservation seedbank (USFWS 2021).

Results of Surveys within the BSA from 2022 and 2023

Nipomo Mesa lupine was observed in several locations in the BSA during the 2022 and 2023 botanical surveys, which are shown in Figure 4.4-9 and in details in Figures 4.4-10 through 4.4-12. Within the fence line, a patch of two plants was observed near the coke pile area in the southeast corner of the Refinery (Figure 4.4-12) and a single plant was identified along the mid-eastern edge of the facility (Figure 4.4-11).

Figure 4.4-9 Locations of Special-Status Plant Species



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Figure 4.4-10 Locations of Special-Status Plant Species (Page 1)

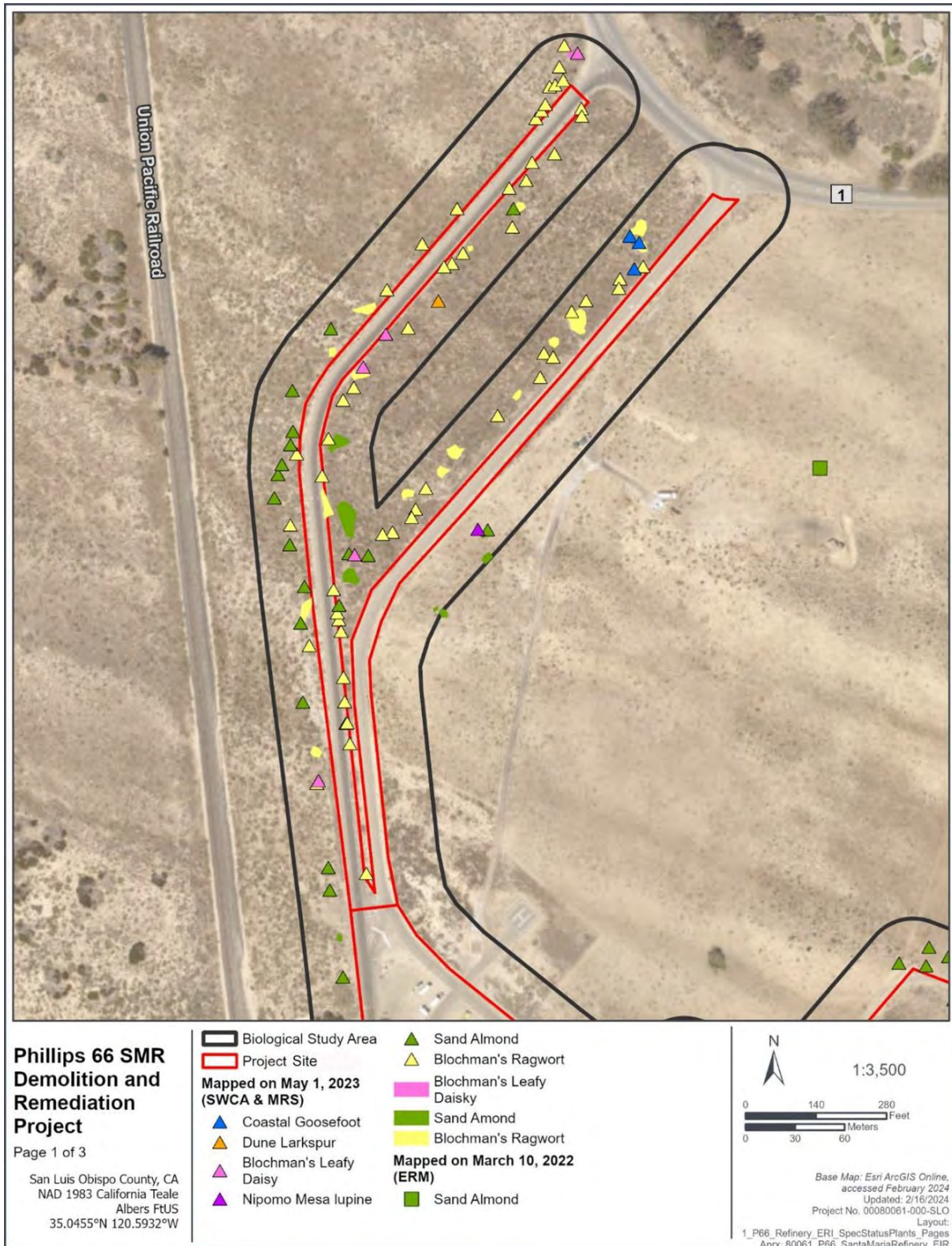
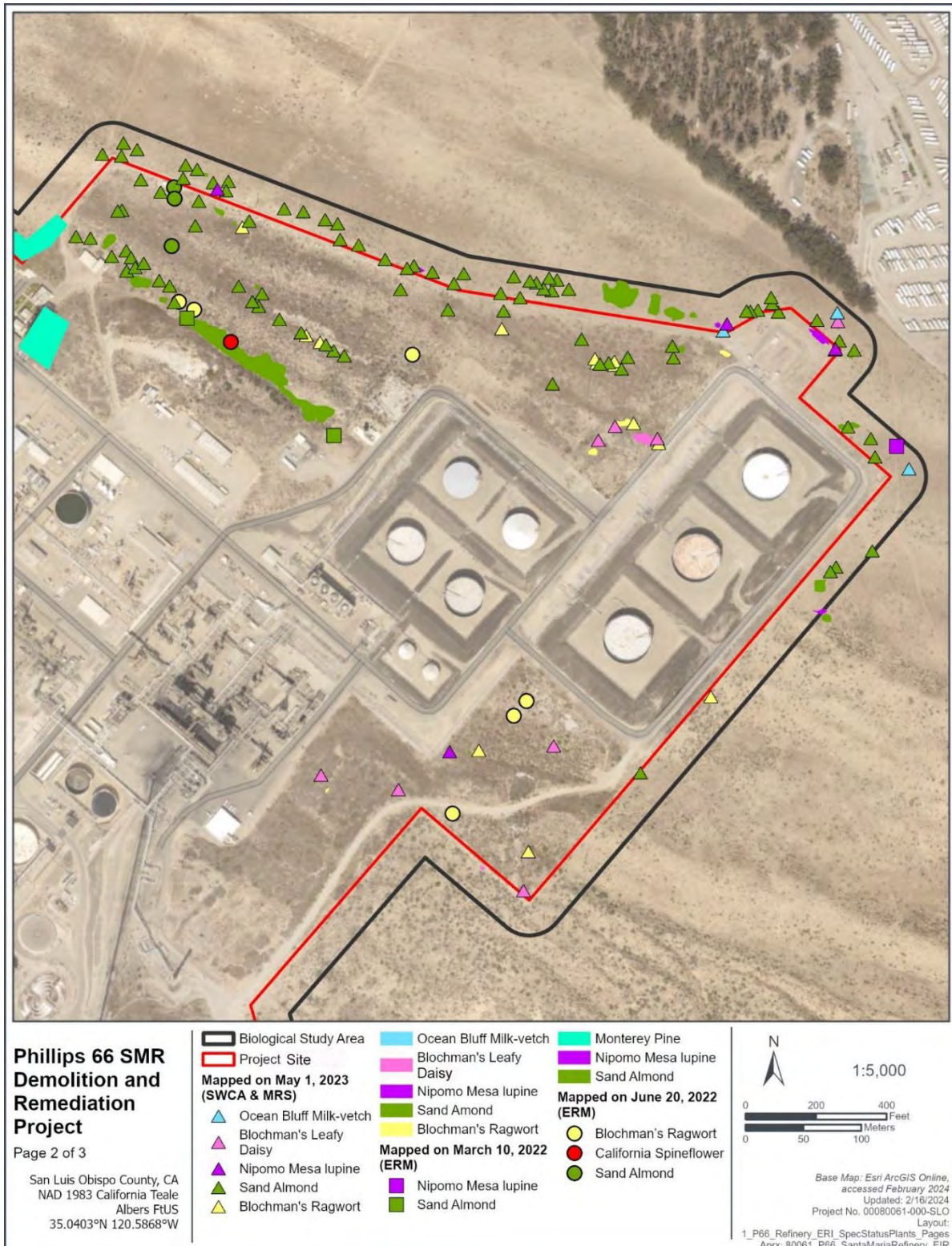
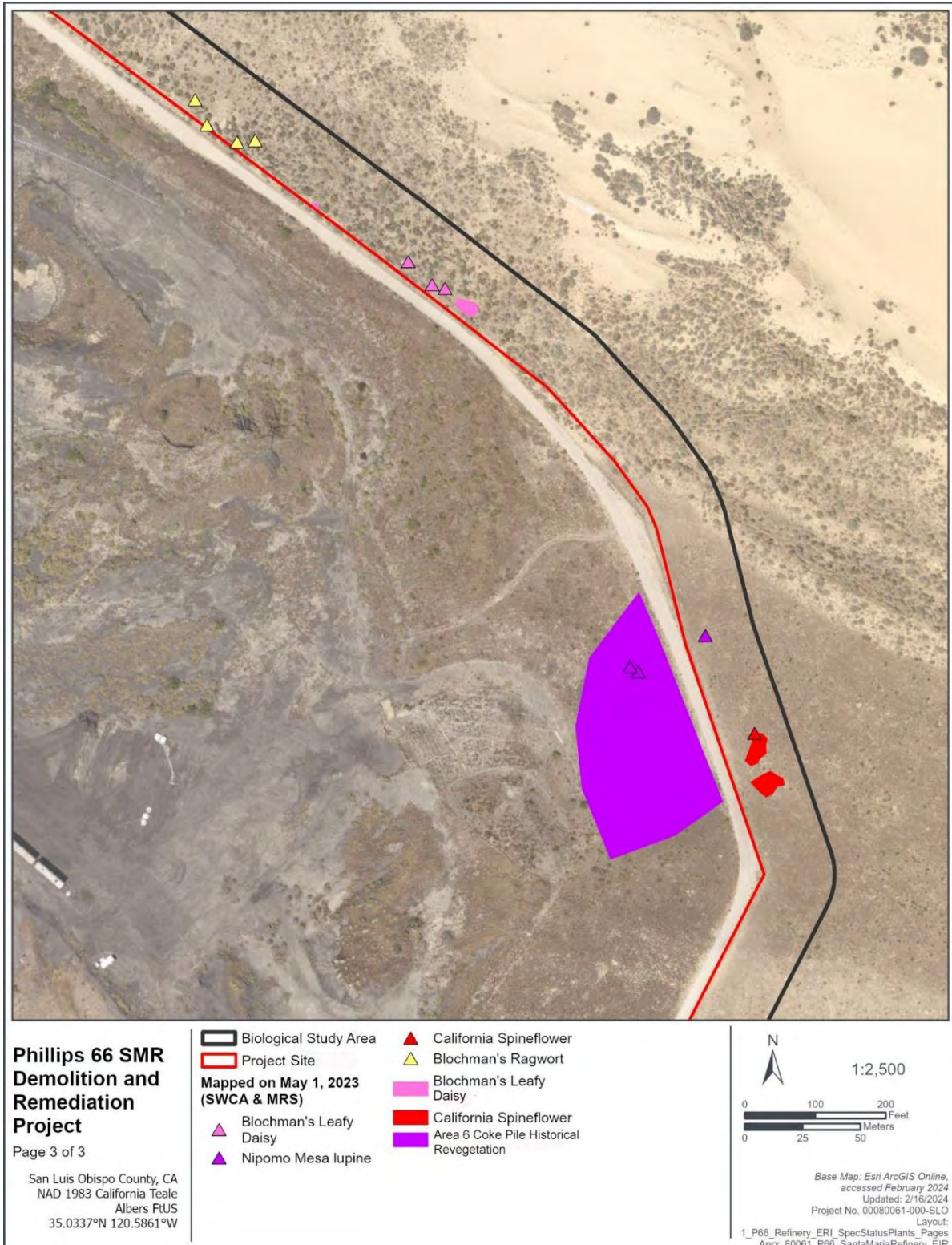


Figure 4.4-11 Locations of Special-Status Plant Species (Page 2)



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Figure 4.4-12 Locations of Special-Status Plant Species (Page 3)



Outside of the fence line, locations within the BSA were observed in the northeastern portion of the site (Figure 4.4-11), east of the Project site (Figure 4.4-12) and along the entry/exit roadway (Figure 4.4-10).

One individual was observed growing up through the asphalt emulsion coating (Figure 4.4-11 south of tank farm). This occurrence suggests that a seed bank still potentially persists within the more disturbed areas within the Refinery and populations may be able to expand with restoration efforts. The other occurrences were located immediately outside and along the northern Project fence line where approximately 35 individuals were mapped (Figure 4.4-9 and Figure 4.4-11). The plants were observed in the flatter area adjacent to the Project site outside the fence line within the BSA. The area immediately outside and adjacent to the Project fence line within the BSA appeared to be mimicking the conditions of the base of a stabilized dune, as fewer to no plants were observed further away from the Project site.

California Rare Plant Rank 1B

Blochman's Leafy Daisy

Blochman's leafy daisy (*Erigeron blochmaniae*) is a perennial rhizomatous herb of the sunflower family (Asteraceae). It has a CRPR of 1B.2, a plant of limited distribution that is fairly endangered to moderately threatened in California. This species is endemic to the sand dunes of the Central Coast, extending from Vandenberg Space Force Base in Santa Barbara County north to Morro Bay. This species is threatened by non-native invasive species, off-road vehicles, and loss of habitat.

Blochman's leafy daisy occurs in several areas in the BSA and the buffer area. During the 2023 surveys, it was found in several locations in the disturbed dune scrub habitats within the Project site (Figure 4.4-11). It was also found within the southeastern buffer area and in several locations adjacent to the access road (Figures 4.4-10 and 4.4-11). One of the largest polygons mapped was in front of the northern entrance sign adjacent to Highway 1 (Figure 4.4-10). The 2022 surveys conducted by ERM did not find Blochman's leafy daisy within the Project area, but only along the area west of the railroad (Figure 4.4-9). The lack of rainfall in 2022 likely significantly reduced the distribution of this species which is why it may not have been observed within the BSA in 2022; however, based on 2023 surveys when there was ample rainfall, this species does occur in the in within the Project site and could potentially be found in other suitable habitat areas within the BSA from year to year. Occurrences could potentially expand given proper restoration of the disturbed dune scrub habitat within the BSA.

Dune Larkspur

Dune larkspur (*Delphinium parryi* subsp. *blochmaniae*) is a perennial herbaceous plant in the buttercup family (*Ranunculaceae*) and occurs in chaparral and coastal dune communities with sandy or rocky soils. This species typically blooms from April to May and is found from 0 to 200 meters above sea level. Dune larkspur has a CRPR of 1B.2, a plant of limited distribution that is fairly endangered to moderately threatened in California.

One occurrence of dune larkspur was observed adjacent to the access road during the 2023 botanical surveys (Figure 4.4-10). The nearest documented CNDDDB occurrence was observed in 1969 and is located south of the BSA in the proximity of the Los Berros Creek riparian corridor. The various coastal scrub in the Study Area provides suitable habitat for this species; however, it

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was only found in one location during the 2023 survey and was not found in 2022. One occurrence was found by Arcadis in 2019 approximately 225 feet east of the northeastern corner of the BSA (Arcadis 2019), but it was not found during botanical surveys conducted by Arcadis in 2013 for the Rail Spur Project (Arcadis 2013a).

Coastal Goosefoot

Coastal goosefoot (*Chenopodium littoreum*) is an annual herbaceous plant in the goosefoot family (*Chenopodiaceae*). It occurs in coastal dune habitat in Los Angeles, Santa Barbara, and San Luis Obispo Counties. This species typically blooms from April to August and is found from 10 to 30 meters above sea level. Coastal goosefoot has a CRPR of 1B.2, a plant of limited distribution that is fairly endangered to moderately threatened in California.

Three coastal goosefoot plants were observed adjacent to the access road during the 2023 botanical surveys (Figure 4.4-10). The nearest documented CNDDDB occurrence was approximately 0.17 mile north of the BSA in 2011. The coastal scrub in the BSA provides suitable habitat for this species; however, it was only found in one general location along the entrance road during the 2023 survey and was not found in 2022. It was also not found by Arcadis during their surveys in 2013, 2015, and 2019 (Arcadis 2013a, 2015a, and 2019).

California Rare Plant Rank 4

Blochman's Ragwort

Blochman's ragwort (*Senecio blochmaniae*) is a subshrub in the sunflower family (*Asteraceae*) that reaches 1.5 meters in height. The leaves are bright green and linear, with dried leaves remaining attached to the plant lower on stems. Blochman's ragwort is distributed on stabilized dunes from Point Conception north to Morro Bay. It has a CRPR of 4.2, a plant of limited distribution that is fairly endangered in California. It is threatened by development, invasive weeds, off-road vehicles, and other human activities.

Blochman's ragwort was the second most common special-status plant found within the BSA second to sand almond (Figures 4.4-9, 4.4-10, and 4.4-11). In the 2023 surveys, it was most prevalent adjacent to the entrance roads (Figure 4.4-10). A few locations were mapped within the Project site to the north and east and along the eastern buffer area (Figures 4.4-11 and 4.4-12). It frequently occurred at the base of larger shrubs. A few additional occurrences within the Project site on the western edge of the property were mapped in 2022.

California Spineflower

California spineflower (*Mucronea californica*) is a distinctive reddish annual of the buckwheat family (*Polygonaceae*). This species produces wiry branches that grow low to the ground and rarely grow taller than 25 centimeters. California spineflower grows on sandy soils and occurs in chaparral, cismontane woodland, coastal dunes, and coastal scrub communities. It has a CRPR of 4.2 species, a plant that is of limited distribution and fairly threatened in California.

California spineflower was found in two locations within the BSA and just outside of the BSA, west of the railroad. ERM found California spineflower in the northern portion of BSA amongst a patch of mapped sand almond during their survey in June 2022 (Figure 4.4-11). An additional patch was found along the southeastern buffer area, immediately east of the Project site, in surveys conducted in 2023 by SWCA (Figure 4.4-12).

Sand Almond

Sand almond (*Prunus fasciculata* var. *punctata*) is a CRPR 4.3 variety endemic to San Luis Obispo and Santa Barbara Counties. It is known to occur in sandy habitats in maritime chaparral, coastal dune and scrub, and woodland habitats below 200 meters elevation. It is a deciduous shrub that typically blooms between March and April.

Sand almond was the most abundant special-status plant found within the BSA (Figure 4.4-9). It was prevalent along the northern portion of the property, often comprising one of the dominant shrub species amongst a field of veldt grass. Most of the individuals of sand almond mapped were small and appeared to be resprouting shrubs that may have died back during the extensive drought years between 2011 and 2017 and between 2020 and 2022.

Ocean Bluff Milk-Vetch

Ocean bluff milk-vetch (*Astragalus nuttallii* var. *nuttallii*) is a perennial herb in the pea family (*Fabeaceae*) that occurs on coastal bluffs and dunes from the San Francisco Bay south to Point Conception. It has a CRPR 4.2, having limited distribution and being fairly threatened in California.

Ocean bluff milk-vetch was found in a few areas along the northeastern buffer area just outside the Project site during the 2023 botanical surveys. It was listed on the plant species list by ERM in 2022, but not identified to the level of varietal; therefore, its locations were not mapped. It was also observed during surveys in 2023 but also not mapped. MRS Senior Botanist, Lauren Brown, identified it as the rare varietal *nuttallii* and those occurrences were mapped (Figure 4.4-11). Assuming the occurrences found in 2022 and 2023 are also the varietal *nuttallii*, this species is likely more abundant on the property than mapped on the figures.

4.4.1.6 Special-Status Wildlife Species

For the purposes of this section, special-status wildlife species are defined as the following:

- Wildlife that are listed or proposed for listing as threatened or endangered under the ESA (50 CFR 17.11 for listed animals and various *Federal Register* notices for proposed species).
- Wildlife that are candidates for possible future listing as threatened or endangered under the FESA.
- Wildlife that meet the definitions of rare or endangered species under CEQA (State CEQA Guidelines Section 15380).
- Wildlife that are listed or proposed for listing by the State of California as threatened and endangered under the CESA (14 CCR 670.5).
- Wildlife that are Species of Special Concern (SSC) to the CDFW.
- Wildlife that are fully protected in California (CFGF Sections 3511 [birds], 4700 [mammals], and 5050 [reptiles and amphibians]).

Based on a CNDDDB query and a review of existing literature, a total of 54 special-status wildlife species were assessed for their potential to occur in the BSA (refer to Appendix D). The list of

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special-status animal species considered in Appendix D is regional; therefore, an analysis of the range, habitat preferences, and previous survey data for those species was conducted to identify which sensitive animal species have the potential to occur in or near the Project area. As a result of this analysis, it was determined that potentially suitable habitat is present for 19 special-status animal taxa (plus nesting birds and roosting bats), and they are likely to occur in or adjacent to the BSA. Marginally suitable habitat is present for seven additional special-status animal taxa; however, due to the marginal nature of the habitat present they are less likely to occur in or adjacent to the BSA. These species are further discussed in Table 4.4.3 and below. Species with no potential to occur are included in the table in Appendix D, but not included in Table 4.4.3 below except those that were specifically called out by the USFWS and/or CDFW in their letters on the Notice of Preparation (NOP) Scoping Report (USFWS 2023c, CDFW 2023d, and San Luis Obispo County 2023).

ERM did not conduct focused wildlife surveys in support of this Project (ERM 2023). Therefore, information in addition to CNDDDB occurrences were consulted. This includes the wildlife surveys conducted by Arcadis in 2013 for the Rail Spur Project and in 2019 for the Line 300 Pipeline Replacement Project (Arcadis 2013b and 2019). Based on the wildlife surveys conducted by Arcadis in 2013 for the Rail Spur Project, seven sensitive wildlife species were observed adjacent to the BSA within the land owned by the Applicant (Phillips 66). These species are western burrowing owl (*Athene cunicularia*), loggerhead shrike (*Lanius ludovicianus*), northern harrier (*Circus cyaneus*), ferruginous hawk (*Buteo regalis*), Bell's sparrow (*Amphispiza belli*), Cooper's hawk (*Accipiter cooperii*), and monarch butterfly (*Danaus plexippus*) (Arcadis 2013b). Arcadis conducted additional focused surveys for burrowing owl in 2013 to confirm whether the species was a year-round resident or overwintering individual. The results of this effort determined that the species was an overwintering individual (Arcadis 2013c). Even though they were not observed during surveys, two sensitive reptiles, Blainville's horned lizard (*Phrynosoma coronatum*) and silvery legless lizard (*Anniella pulchra pulchra*), are assumed to occupy the Project area due to the presence of suitable habitat and nearby documented occurrences.

Special-Status Animal Taxa with Potential to Occur in the BSA

Obscure Bumble Bee

Obscure bumble bee (*Bombus caliginosus*) is a State Special Animal and occurs along the Pacific Coast, from southern California to southern British Columbia, with scattered records from the east side of California's Central Valley. This species typically inhabits open, grassy coastal prairies and meadows (Williams et al. 2014). Nests are often located underground in abandoned rodent nests, or above ground in tufts of grass, old bird nests, rock piles, or cavities in dead trees. (Hartfield et al. 2014). Key threats for this species appear to include climate change and habitat loss due to development and agricultural activity (Nature-Serve 2020). There are two historic CNDDDB occurrences west of the BSA in the ODSVRA around Oso Flaco Lake and Pismo State Beach. Suitable habitat is present for the species in the BSA.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
<i>Insects</i>			
Oso Flaco robber fly <i>Ablautus schlingeri</i>	Occur in sandy coastal backdune habitat. Found in San Luis Obispo County.	--/--/SA	Suitable Conditions Present: Suitable habitat in Project area. Species last reported in 1962.
obscure bumble bee <i>Bombus caliginosus</i>	Inhabits open grassy coastal prairies and Coast Range meadows. Nest underground and above ground in abandoned bird nests.	--/--/SA	Suitable Conditions Present: Suitable habitat in Project area.
Crotch bumble bee <i>Bombus crotchii</i>	Open grassland and scrub habitat. Nest primarily underground. Generalist forager. Select food plant genera include <i>Fabaceae</i> , <i>Apocynaceae</i> , <i>Asteraceae</i> , <i>Lamiaceae</i> , <i>Boraginaceae</i> . Little is known about overwintering sites.	--/CE/--	Suitable Conditions Present: Suitable habitat in coast scrub and grassland areas.
western bumble bee <i>Bombus occidentalis</i>	A bumble bee that historically has had a wide range in the west coast of north America from British Columbia to central California and east to South Dakota. In California, populations are currently restricted to high elevation sites in the Sierra Nevada, though there have been few observations on the northern California coast. Requires meadows and grasslands with abundant floral resources.	--/CE/--	Suitable Conditions Present: Suitable habitat in coast scrub and grassland areas. There is a historic CNDDDB occurrence from 1936 near Pismo Beach.
monarch butterfly <i>Danaus plexippus</i>	Occur along coast from northern Mendocino to Baja California, Mexico. Winter roosts in wind-protected tree groves (eucalyptus, Monterey pine [<i>Pinus radiata</i>], and cypress [<i>Cupressus</i> spp.]), with nectar and water sources nearby.	FC/--/SA	Suitable Conditions Present: The eucalyptus trees provide suitable winter roosting habitat, but there are no documented winter roost sites in the Project area. There is an unprocessed CNDDDB occurrence 0.4 mile north, but it is not cited as a winter roosting area. The closest winter roosting record is 2.2 miles east at the Monarch Dunes Golf Course Butterfly Preserve.

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Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
Morro Bay blue butterfly <i>Icaricia icarioides moroensis</i>	Locally common from March to July, this species flies only along the immediate coast of San Luis Obispo and western Santa Barbara Counties. Feeds on <i>Lupinus chamissonis</i> . This variety is restricted to the dunes at Vandenberg Space Force Base, Pismo/Guadalupe dune system and the dunes of Morro Bay.	--/--/SA	Suitable Conditions Present: Found at Oso Flaco Lake in 2004; <i>Lupinus chamissonis</i> is present in Project area.
Amphibians			
California red-legged frog <i>Rana draytonii</i>	Occur in aquatic habitats with little or no flow and surface water depths to at least 2.3 feet (0.7 meters). Presence of fairly sturdy underwater supports, such as cattails (<i>Typha</i> spp.).	FT /-- /SSC	Marginal Conditions Present: Marginally suitable aquatic habitat is present. The two areas PW 1 and PW 2 provide marginally suitable aquatic habitat. The fact that they provide a source of water makes them potentially attractive nonbreeding aquatic habitat. There is a CNDDDB record 0.4 mile west of the Project area in a dune swale pond, which is within their known dispersal distance. There are also CNDDDB occurrences in Oso Flaco Creek and its tributary, which is 0.4 mile south of the BSA. Based on these occurrences, the undeveloped areas of the BSA provide marginal potential upland dispersal habitat for frogs dispersing between dune swale ponds west of the BSA and the tributary to Oso Flaco Creek south of the BSA.
Reptiles			
Northern California legless lizard <i>Anniella pulchra</i>	Occur from southern edge of San Joaquin River in northern Contra Costa County south to Ventura County. Occur in scattered locations in San Joaquin Valley, along southern Sierra Nevada mountains, and on desert side of Tehachapi Mountains and part of	--/--/SSC	Suitable Conditions Present: Multiple CNDDDB occurrences adjacent to Project area. Suitable sandy soils on site. Suitable habitat is present throughout the Project area. Species is likely to occur within the Project area.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
	San Gabriel Mountains. Sandy or loose loamy soils with high moisture content under sparse vegetation.		
Blainville's (coast) horned lizard <i>Phrynosoma blainvillii</i>	Frequent a wide variety of habitats, commonly occurring in lowlands along sandy washes, coastal sage scrub, and chaparral in arid and semi-arid climate conditions. Prefer friable, rocky, or shallow sandy soils.	--/--/SSC	Suitable Conditions Present: Suitable sandy soils on site. Suitable habitat present on the site. Closest CNDDDB occurrence is 0.6 mile west on the Oceano dunes. One occurrence was observed by Arcadis in 2019 89 feet from the southeastern BSA boundary. Species is likely to occur within the BSA.
Birds			
Cooper's hawk <i>Accipiter cooperii</i>	Deciduous riparian woodland habitat throughout California. Cooper's hawks nest in deciduous, mixed-deciduous, and evergreen forests, as well as in suburban and urban environments. Cooper's hawks tend to nest in more open areas that have older and larger trees.	MBTA/§/WL	Suitable Conditions Present: CNDDDB did not have any occurrences for this species, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Likely to forage on the site and occur intermittently throughout the year. Potentially suitable nesting habitat on infrastructure.
sharp-shinned hawk <i>Accipiter striatus</i>	A short distance migrant that nests in mixed forests and wooded. Prefers tall trees for nest building. Prey base includes small birds and mammals.	MBTA/§/WL	Suitable Conditions Present: CNDDDB occurrence 1.8 miles east on the Monarch Dunes Golf Club. Likely to forage on the site and occur intermittently throughout the year. Potentially suitable nesting habitat on infrastructure and eucalyptus trees.
golden eagle <i>Aquila chrysaetos</i>	Usually occurring in mountainous areas with varying vegetative cover; removed from people. May forage in grasslands and other open habitats. Nests on cliff edges and rarely in tall trees.	MBTA, BGEPA/-- /FP, Sec.3503.5	Marginal Conditions Present: Species may occur intermittently on the site. Closest CNDDDB occurrences are Atascadero/Santa Margarita and Cachuma Lake. Not likely to nest on the site.

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Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
Bell's sparrow <i>Artemisospiza [Amphispiza] belli belli</i>	Occurs in coastal sage scrub, chamise chaparral	MBTA/§/WL	Suitable Conditions Present: Suitable habitat for foraging throughout survey area, and suitable nesting habitat on infrastructure and sagebrush. No CNDDDB occurrences for this species, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b).
burrowing owl <i>Athene cunicularia</i>	Occur in open, dry grasslands, deserts, and scrublands. Subterranean nester, dependent on burrowing mammals.	MBTA/§ /SSC	Suitable Conditions Present: suitable scrub habitat available on site; over-winters on the site. Observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Closest CNDDDB occurrence is on the Guadalupe oil fields 4.5 miles south in similar habitat.
ferruginous hawk <i>Buteo regalis</i>	(Wintering) open grasslands, sagebrush flats, desert scrub, low foothills, and fringes of pinyon-juniper habitats; eats lagomorphs, ground squirrels, and mice.	MBTA/--/WL	Suitable Conditions Present: Closest CNDDDB occurrence is in San Luis Obispo, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Although the ferruginous hawks may pass through the area in the winter, nesting is not expected to occur in the Project areas.
northern harrier <i>Circus cyaneus</i>	Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded areas. Permanent resident of the northeastern plateau and coastal areas; less common resident of the Central Valley. Widespread winter resident and migrant in suitable habitat.	MBTA/--/SSC	Suitable Conditions Present; common winter resident: CNDDDB did not have any occurrences for this species, but it was observed by Arcadis during surveys in 2013 for the Rail Spur Project (Arcadis 2013b). Suitable foraging habitat on the site for this species.
white-tailed kite <i>Elanus leucurus</i>	Open grasslands, meadows, or marshlands for foraging close to isolated trees for nesting and perching.	MBTA/§/ FP	Suitable Conditions Present: Suitable habitat available for this species; species likely to occur on the site intermittently throughout the year. Potentially suitable nesting habitat in Eucalyptus and Monterey Pine trees on site.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
American peregrine falcon <i>Falco peregrinus</i>	Riparian areas and coastal and inland wetlands are important habitats yearlong, especially in nonbreeding seasons. Migrants occur along the coast, and in the western Sierra Nevada in spring and fall.	MBTA, Delisted/FP/--	Suitable Conditions Present: Suitable habitat for foraging throughout Project area, and suitable nesting habitat on infrastructure.
loggerheaded shrike <i>Lanius ludovicianua</i>	A predatory passerine that frequents open areas with scattered shrubs. Commonly observed foraging in grassland, desert scrubs, and waste places. Builds nests in isolated trees or shrubs in the vicinity of foraging areas.	MBTA/§/SSC	Suitable Conditions Present: One unprocessed CNDDDB occurrence approximately 1.3 miles west of Project area and the species was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Suitable habitat on site for this species; likely to occur on the site intermittently throughout the year. Suitable nesting habitat in shrubs and potentially on infrastructure.
California black rail <i>Laterallus jamaicensis coturniculus</i>	Shore birds known to frequent tidal salt marshes. Utilize densely vegetated mud flats and high tide line in saltwater marsh systems.	--/ST/--	Suitable Conditions Absent: The BSA does not contain tidal salt marshes or densely vegetated mudflats.
California least tern <i>Sternula antillarum browni</i>	Largely a coastal species that feed on fish and nest on sandy dunes or beaches. Once a common species in California; currently nesting colonies are isolated to Southern California and scattered Bay Area beaches.	FE/SE/--	Suitable Conditions Absent: The site does not contain suitable foraging or nesting habitat.
Class Aves Other migratory bird species (nesting)	Annual grasslands, coastal scrub, chaparral, and oak woodlands may provide nesting habitat.	MBTA/§/--	Suitable Conditions Present: Suitable nesting habitat occurs throughout the site, including all of the structures, which may become more attractive to nesting birds as activity at the Refinery decreases.

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Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
<i>Mammals</i>			
pallid bat <i>Antrozous pallidus</i>	Prefer rocky outcrops, cliffs, and crevices with access to open habitats for foraging. Day roosts are in caves, crevices, mines, and occasionally in hollow trees and buildings. Night roosts may be in more open sites, such as porches and buildings.	--/--/SSC	Marginal Conditions Present: suitable foraging habitat present. Potentially suitable roosting habitat on infrastructure, particularly if left unused for an extended period of time.
Townsend’s big-eared bat <i>Corynorhinus townsendii</i>	Occur in a wide variety of habitats; most common in mesic (wet) sites. May use trees for day and night roosts; however, require caves, mines, rock faces, bridges, or buildings for maternity roosts. Maternity roosts are in relatively warm sites.	--/--/SSC	Marginal Conditions Present: suitable foraging habitat present. Potentially suitable roosting habitat on infrastructure, particularly if left unused for an extended period of time.
western red bat <i>Lasiurus blossevillii</i>	Roost primarily in trees, often in edge habitats adjacent to streams, fields, or urban areas. Mating occurs in August and September and young are born from late May through early July.	--/--/SSC	Marginal Conditions Present: Marginal to poor habitat suitability for this species. Marginal suitable habitat conditions present in eucalyptus trees.
Hoary bat <i>Lasiurus cinereus</i>	Occurs in open habitats and habitat mosaics with access to trees for cover. Roosts in dense foliage of medium to large trees.	--/SA/--	Marginal Conditions Present: Marginally suitable foraging habitat present. Marginally suitable roosting habitat present in eucalyptus trees.
Yuma myotis <i>Myotis yumanensis</i>	Near ponds, streams, lakes, or other water sources supporting midges, moths, and other small insects. Maternity roosts are often found in caves, mines, buildings, or tree cavities.	--/SA/--	Marginal Conditions Present: Potentially suitable foraging habitat present. The eucalyptus trees and infrastructure provide potential roosting habitat. This species is highly associated with water; therefore, the potential for this species to exist on the site is low.

Table 4.4.3 Special-Status Animal with Potential to Occur in the Project Area

Species Name	Habitat and Distribution	Legal Status Federal/ State/CDFW	Rationale for Expecting Presence or Absence
American badger <i>Taxidea taxus</i>	Occur in open stages of shrub, forest, and herbaceous habitats; need uncultivated ground with friable soils.	--/--/SSC	Suitable Conditions Present: Suitable sandy soils on site. Site provides suitable habitat and several potential burrow locations were observed during botanical surveys in 2023. Additionally, a badger has been observed in the restoration area in the southeastern part of the site (personal communication).

Source: Unless otherwise noted, all habitat and distribution data provided by the CNDDDB (2023).

Status Codes:

-- = No status

Federal: FE = Federal Endangered; FT = Federal Threatened; FC = Federal Candidate; CH = Federal Critical Habitat; PCH = Proposed Federal Critical Habitat; MBTA = Protected by Federal Migratory Bird Treaty Act; **State:** SE = State Endangered; ST = State Threatened; SCT = State Candidate Threatened, SCE = State Candidate Endangered; § = CA Fish and Game Code §3503 and §3503.5; **CDFW:** SSC = Species of Special Concern; FP = Fully Protected Species; SA = Not formally listed but included in CDFW “Special Animal” List; WL = Watch List

Rationale Terms: *Species Present:* Species was or has been observed in the survey area. *Suitable Conditions Present:* Survey area is within the species’ range and supports the appropriate habitat, soils, elevation, and other habitat requirements. *Marginal Conditions Present:* Survey area is in the species’ range and supports the appropriate habitat but other factors (past disturbances, presence of predators, etc.) may preclude species occurrence. *Suitable Conditions Absent:* Survey area is not in the species’ range and/or does not support the appropriate habitat, soils, elevation, and/or other habitat requirements.

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Crotch Bumble Bee

Crotch bumble bee (*Bombus crotchii*) is a candidate species for protection under the CESA. It inhabits open grassland and scrub habitats primarily in California, from Sacramento south into Mexico, and from the coast east into Nevada. Bumble bee colonies are annual with the queen mating in the fall before overwintering alone starting in October. In the spring the queen emerges and established a new colony by producing female workers and male drones. Not much is known about Crotch bumble bee overwintering sites (Xerces Society et al. 2018). Generally, bumble bees overwinter in soft, disturbed soil (Goulson 2010), or under leaf litter or other debris (Williams et al. 2014). Queens emerge between February and April (Thorp et al. 2010) and establish a colony.

Colonies are usually underground in abandoned holes made by ground squirrels, mice, and rats, or occasionally abandoned bird nests (Osborne et al. 2008). However, bumble bees may also nest above ground in tufts of grass or cavities in downed wood, rock walls or brush piles. Crotch bumble bee are generalist foragers, feeding on a variety of flowering plants (Xerces Society et al. 2018). Like other bumble bees, this species feeds on both the nectar and the pollen. Select food plant families include *Fabaceae*, *Apocynaceae*, *Asteraceae*, *Lamiaceae*, and *Boraginaceae* (Xerces Society et al. 2018). Threats to this species include loss of habitat due to agriculture and development and degradation of habitat due to invasive species, livestock grazing, herbicide use and decreases in small mammal population due to poisoning. The closest CNDDDB occurrence is 26 miles north of the BSA in San Luis Obispo, however, the BSA is potentially within its historic range and there is potentially suitable habitat in the dune scrub and grassland areas in the BSA.

Western Bumble Bee

Western bumble bee (*Bombus occidentalis*) is a candidate species for protection under the CESA. Once commonly found in western United States, Canada, North Dakota, and throughout Alaska, they now appears to be absent from most of these areas as there has been a 93 percent decline in occupancy in the last two decades (Xerces Society et al. 2018). Western bumble bees primarily nest in late February through late October underground in abandoned small mammal burrows but may be found under brush piles, in old bird nests, and in dead trees or hollow logs. Overwintering sites utilized by mated queens include soft, disturbed soil, or under leaf litter or other debris (Xerces Society et al. 2018). The closest documented occurrence is a historic CNDDDB occurrence from 1936 near Pismo Beach. However, suitable habitat is present in the BSA in coast scrub and grassland areas and Western bumble bees have the potential to be found on or within the vicinity of the BSA.

Monarch Butterfly

Monarch butterfly (*Danaus plexippus*) is a candidate species for protection under the FESA and listed as a CDFW Special Animal. It migrates in the fall to wintering locations along the coast of central and southern California and mainland Mexico. Monarch butterfly aggregates in eucalyptus, Monterey pine (*Pinus radiata*), Monterey cypress (*Cupressus macrocarpa*), and less commonly oak trees. The eucalyptus trees provide suitable winter roosting habitat, but there are no documented winter roost sites in the BSA. There is an unprocessed CNDDDB occurrence 0.4 mile north, but it is not cited as a winter roosting area. The closest CNDDDB winter roosting record is 2.2 miles east at the Monarch Dunes Golf Course Butterfly Preserve (CNDDDB 2023).

California Red-legged Frog

California red-legged frogs (CRLF) (*Rana draytonii*) are listed as a Federal Threatened species under FESA and is a California SSC. CRLF is endemic to California and northern Baja California, historically ranging from Mendocino County south along the coast to Baja and east from the Northern Sacramento Valley to the foothills of the Sierra Nevada at elevations up to 5,000 feet. This species requires permanent or semi-permanent bodies of water, such as lakes, streams, and ponds with emergent vegetation. They use lowland and grassland areas to hunt and forage for food. Adult frogs consume invertebrates, mice, fish, frogs, and larvae of other amphibians. Tadpoles are thought to consume algae floating on the water's surface or growing on rocks and plants. Breeding typically occurs over a one-to-two-week period between late November and early April (depending on local environmental conditions) and females lay egg masses in the water which the male externally fertilizes. The egg masses are often attached to aquatic vegetation and tadpoles hatch approximately four weeks later. Most tadpoles metamorphose in four to seven months, but some would do so the next summer. Current threats to extant populations of red-legged frogs include nonnative predators, such as bullfrogs and centrarchid fishes, urban and agricultural development, and pesticide pollution (Nafis 2020).

PW 1 and PW 2 provide marginally suitable aquatic habitat for CRLF. The fact that they provide a source of water makes them potentially attractive nonbreeding aquatic habitat. The closest CNDDDB record is 0.4 mile west of the BSA in a dune swale pond, which is within their known dispersal distance. There are also CNDDDB occurrences in Oso Flaco Creek and its tributary, which is 0.4 mile south of the BSA. Based on these occurrences, the undeveloped areas of the BSA provide potential upland dispersal habitat for frogs dispersing between dune swale ponds west of the BSA and the tributary to Oso Flaco Creek south of the BSA and potentially suitable aquatic nonbreeding habitat because it provides a consistent water source year-round.

Northern California Legless Lizard

Northern California legless lizard (*Anniella pulchra*) is a CDFW SSC and occurs from Contra Costa County to Santa Barbara County. It inhabits friable soils in a variety of habitats from coastal dunes to oak woodlands and chaparral. Adapted to subterranean life, the legless lizard thrives near native coastal shrubs that produce an abundance of leaf litter and have strong roots systems (Kuhnz et al. 2005). Areas of exotic vegetation and open grassland do provide less suitable habitat for the species since these plant communities support smaller populations of insect prey and offer little protection from higher ground temperatures and soil desiccation (Thomson et al. 2016). There are multiple CNDDDB occurrences located adjacent to BSA and suitable sandy soils are present throughout the BSA. Therefore, the species is likely to occur within the BSA.

Blainville's Horned Lizard

Blainville's horned lizard (*Phrynosoma blainvillii*) occurs in semi-arid mountains of western and southern California at elevations up to 8,000 feet. This species inhabits grasslands, coniferous forests, woodlands, and chaparral, with open areas and patches of loose, sandy soil. It is frequently found near native ant hills, which are its preferred food source. This species may also forage on beetles, wasps, grasshoppers, flies, and caterpillars. The breeding season is from May to September, and nests are constructed in loose soil (Zeiner et al. 1988–1990). Habitat conversion to housing and agriculture and the spread of nonnative ants (e.g., Argentine ants) have caused this species to decline. Historically, this lizard was extensively exploited by the pet and curio trade (Nafis 2020). As such, the Blainville's horned lizard is a California SSC. One Blainville's horned

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lizard was observed approximately 89 feet from the southeastern BSA boundary during surveys conducted by Arcadis in 2019 (Arcadis 2019).

Cooper's Hawks

Cooper's hawks (*Accipiter cooperii*) are a California SSC and occur throughout the southern United States and Mexico. Nesting habitat for this hawk is primarily dense stands of coast live oak and riparian forests. Cooper's hawks nest and forage in close proximity to open water or riparian vegetation (Zeiner et al. 1988–1990). Prey for Cooper's hawks consists of birds, small mammals, amphibians, and reptiles. They are tolerant of human activity and would nest relatively close to developed and suburban areas. The CNDDDB did not have any occurrences for this species, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Likely to forage in the BSA and occur intermittently throughout the year. There is potentially suitable nesting habitat on the infrastructure.

Western Burrowing Owl

Western burrowing owls (*Athene cunicularia*) is a California SSC that generally inhabit open grasslands, prairies, and fields with short-stature vegetation, but may also occupy agricultural and developed areas (Shuford and Gardali 2008). This species typically uses the burrows of ground squirrels and other small mammals for shelter, protection from predators, and rearing of chicks. Burrowing owls are active day and night, and can be seen roosting outside of burrow entrances during the day. Courtship and mating may begin as early as late December in California and continue into early spring. Incubation lasts 28–30 days and young disperse to nearby burrows by early fall. The primary threats to burrowing owls are the elimination of burrowing mammals through control programs and habitat loss (Klute et al. 2003). They are a SSC in the State of California.

The closest CNDDDB occurrence for burrowing owls is on the Guadalupe oil fields approximately 4.5 miles south in similar habitat. Burrowing owls were observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Additionally, Arcadis conducted focused surveys for burrowing owls in 2013 to confirm whether the species was a year-round resident or overwintering individual. The results of this effort determined that the species was an overwintering individual (Arcadis 2013c). The BSA supports suitable habitat for over-wintering, and they are known to occur adjacent to the BSA.

Sharp-Shinned Hawk

Sharp-shinned hawk (*Accipiter striatus*) is a state watch list species that is known to range throughout high elevation forests in the Rocky Mountains, as well as large areas of Canada, Alaska, and much of the northeastern United States. Breeding grounds also extend into portions of northern California, Nevada, and Washington. This species inhabits a variety of habitats including aspen, pine, and fir forests, as well as urban and agricultural areas. Peak nesting season for this species is from March to June, but often extends through the summer. There is one CNDDDB occurrence 1.8 miles east on the Monarch Dunes Golf Club (CNDDDB 2023). The species likely forages within the BSA and may occur intermittently throughout the year. There is also potentially suitable nesting habitat on the infrastructure and eucalyptus trees present in the BSA.

Golden Eagle

Golden eagles (*Aquila chrysaetos*) are protected under the Bald and Golden Eagle Protection Act (16 United States Code [U.S.C.] 668-668c) and designated as a Fully Protected Species under Section 3511 of the CFGC, designated by CDFW as a Fully Protected species (i.e., no permitted take or possession at any time), and is also protected under the federal Bald and Golden Eagle Protection Act (USFWS 2019d). Golden eagles typically occur in open and semi-open habitats, most commonly in mountainous areas with hunting grounds where prey is abundant. Golden eagles typically feed on small mammals and would nest in trees, on transmission towers, on cliffs, or other steep escarpments (Cornell Lab of Ornithology 2023). The typical nesting period for golden eagles is from January 1 through September 15. This species is threatened by loss of forage and nesting habitat, secondary pesticide poisoning, and collisions with man-made structures. There is marginally suitable habitat present in the BSA for this species and may occur intermittently on the site. However, the closest CNDDDB occurrences are Atascadero/Santa Margarita and Cachuma Lake. They are not likely to nest within the BSA.

Bell's Sparrow

Bell's sparrow (*Artemisiospiza* [*Amphispiza*] *belli belli*) is a state watch list species that typically occurs in dense coastal chaparral and sagebrush scrub. The Bell's sparrow can often be seen running between bushes with its tail raised high. It builds a cuplike nest of twigs, grasses, bark, lined with finer materials, placed on the ground or up to 3-feet high in a shrub. Typically, 3 to 4 bluish eggs are laid in the spring; incubation lasts approximately 13 days and young fledge in 9 to 11 days (Ehrlich et al. 1988; Stokes 1996). Suitable habitat for foraging throughout survey area, and suitable nesting habitat on infrastructure and sagebrush. The CNDDDB did not have any occurrences for this species, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013). The BSA contains suitable breeding habitat for this species.

Ferruginous Hawks

Ferruginous hawk (*Buteo regalis*) are also a state watch list species and are typically found in open grasslands, sagebrush flats, desert scrub, low foothills surrounding valleys, and fringes of pinyon-juniper habitats. This species hunts its prey from high mound perches or from flying low over grassland habitat. Roosting habitat include open areas usually in solitary trees or utility poles (Zeiner, et al. 1988–1990). This species generally arrives in California in September and departs by mid-April for breeding grounds in the northern United States and Canada. The closest CNDDDB occurrence is in San Luis Obispo, but it was observed by Arcadis during surveys in 2013 for the Rail Spur (Arcadis 2013b). Although the ferruginous hawks may pass through the area in the winter, nesting is not expected to occur in the BSA.

Northern Harrier

Northern harrier (*Circus cyaneus*) is a California SSC that inhabits a range of habitats with low vegetation including meadows, grasslands, open rangelands, desert sinks, and fresh and saltwater emergent wetlands. This species builds nests on the ground near marshes or in grasslands, usually near dense vegetation. Northern harriers feed on a variety of animals, such as small mammals, reptiles, amphibians, and birds. They occur year-round in California and at least some breeding populations may be resident. However, northern harriers can be found in much greater numbers more broadly during migration and winter than during the breeding season, which extends from March through August (Shuford and Gardali 2008). There were no CNDDDB occurrences for this species within the search radius, but it was observed by Arcadis during surveys in 2013 for the

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Rail Spur (Arcadis 2013b). The BSA contains suitable foraging habitat and potentially suitable nesting habitat on infrastructure.

White-Tailed Kite

The white-tailed kite (*Elanus leucurus*) is designated as a Fully Protected Species (i.e., no permitted take or possession at any time) under Section 3511 of the California Fish and Game Code (CFGF). They are resident to coastal valleys and lowlands of California where it inhabits herbaceous and open stands of various habitats near agricultural operations. Nest sites are typically placed on the top of a tall tree near or within riparian areas, with adjacent grasslands for foraging. Typical prey items include voles and other small diurnal mammals, but it would occasionally feed on birds, insects, reptiles, and amphibians (Zeiner et al. 1988–1990). Nesting occurs within thick, upper canopies of oaks, willows, or other tree stands in close proximity to open foraging area. Suitable habitat is available for this species in the BSA and the species is likely to occur intermittently throughout the year. Additionally, there is potentially suitable nesting habitat in Eucalyptus and Monterey Pine trees in the BSA.

American Peregrine Falcon

American peregrine falcon (*Falco peregrinus*) is a State Fully Protected species (nesting). It occurs all over the world. In North America, they are permanent residents of the northwest coast and breed in open landscapes with cliffs or skyscrapers. Nesting occurs up to 3,660 meters generally on rock and cliff ledges, ledges of buildings, bridges, or other structures. Forage occurs primarily on other bird species, especially rock pigeons (*Columba livia*) although they have been documented killing other birds as large as Sandhill cranes (*Grus canadensis*) and as small as hummingbirds (*Trochilidae* spp.). Population declines have been attributed to pesticides causing failed reproduction, however, this species has been delisted from the California and federal Endangered Species Act. Breeding populations are now considered stable or increasing with the ban of specific pesticides in the 1970's (Audubon 2020). There is suitable habitat for foraging throughout BSA, and marginally suitable nesting habitat on infrastructure.

Loggerhead Shrike

Loggerheaded shrike (*Lanius ludovicianua*) is a California SSC and a common resident of lowlands and foothills throughout California, occupying open habitats with scattered shrubs, trees, fence posts, and poles for perching opportunities. This species typically forages on insects but may also hunt for small reptiles, amphibians, and mammals, sometimes impaling them on sharp objects like barbed wire. Loggerhead shrikes build nests on stable branches in well-concealed dense shrubs or trees (Zeiner et al. 1988–1990). There is one unprocessed CNDDDB occurrence approximately 1.3 miles west of BSA and the species was observed by Arcadis during surveys in 2013 for the Rail Spur (CNDDDB 2023 and Arcadis 2013b). The BSA contains suitable habitat for this species, and it is likely to occur on the site.

American Badger

American badger, a CDFW SSC with a widespread range across the state (Brehme et al. 2015; CDFW 2016), is a permanent but uncommon resident in all parts of California, except for forested regions of the far northwestern corner, and is more abundant in dry, open areas of most shrub and forest habitats (CNDDDB 2023). It requires friable soil to dig burrows for cover and breeding. The main food source for the species is fossorial rodents, mainly ground squirrels and pocket gophers (CDFW 2016). The breeding season for badgers is in summer and early fall, and females give birth

to litters usually in March and April (CDFW 2016). Suitable sandy soils are present within the BSA and several potential burrow locations were observed during botanical surveys by SWCA and MRS in 2023. Additionally, a badger has been observed in the restoration area in the southeastern part of the site (personal communication). The closest reported CNDDDB occurrence of American badger is located approximately 350 feet west of the BSA, where an adult badger was observed at a den in the ODSVRA. Given the presence of suitable habitat with friable soils, observations of a badger on site and the proximity of CNDDDB records, American badger presence is presumed confirmed.

Pallid Bat

The pallid bat (*Antrozous pallidus*) is a California SSC. The pallid bat is widespread throughout the western United States; southern British Columbia, Canada; and mainland and Baja California, Mexico (Hermanson and O'Shea 1983; Hall 1981). They prefer rocky outcrops, cliffs, and crevices for roosting (Hermanson and O'Shea 1983). Foraging habitats vary and include grasslands, oak savannahs and woodlands, riparian woodland, open pine forests, talus slopes, and agricultural areas. They predominantly prey upon a wide variety of insects (Zeiner et al. 1988–1990). Suitable foraging habitat present for this species in the BSA. Potentially suitable roosting habitat is present on the infrastructure, particularly if left unused for an extended period of time.

Townsend's Big Eared Bat

The Townsend's big eared bat (*Corynorhinus townsendii*) is a California SSC. In the United States, it occurs in a continuous distribution in all of the western states and east into western South Dakota, northwestern Nebraska, southwestern Kansas, western Oklahoma, and western Texas (Piaggio et al. 2009). Townsend's big-eared bat range is throughout California in a variety of habitats. Diet consists mostly of moths and other relatively slow-moving flying insects. This species is known to roost in caves, mines, tunnels, abandoned buildings and other structures, but is extremely sensitive to human disturbance and may desert roosts following a single human visit (Zeiner et al. 1988–1990). Males are often solitary during the spring and summer while the females remain in maternity colonies of fewer than 100 individuals (Zeiner et al. 1988–1990). This species hibernates individually or in groups less than a few dozen. Suitable foraging habitat is present in the BSA. Potentially suitable roosting habitat is present on infrastructure, particularly if left unused for an extended period of time.

Western Red Bat

The western red bat (*Lasiurus blossevillii*) is a California SSC. Western red bats roost on the underside of overhanging leaves (Pierson et al. 2002). In the Central Valley, they were found to be more abundant in remnant stands of cottonwood/sycamore riparian habitats, but also roosted extensively in orchards and were observed roosting in planted eucalyptus stands (Pierson et al. 2006). Marginally suitable habitat is present in the BSA in the eucalyptus trees.

Hoary Bat

The hoary bat (*Lasiurus cinereus*) is included on the CNDDDB Special Animals List (CDFW 2023a). It is the most widespread of all North American bats (Zeiner et al. 1988–1990). Hoary bats generally roost and bear young in medium to large coniferous and deciduous trees with dense foliage. Females and young tend to roost at higher sites in tree. Marginally suitable foraging habitat present for this species in the BSA. Marginally suitable roosting habitat present in the eucalyptus trees.

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Yuma Myotis

Yuma myotis (*Myotis yumanensis*) is included on the CNDDDB Special Animals List (CDFW 2023a). They occur widely in western North America, from central Mexico to British Columbia, Montana, and New Mexico. It is common and widespread in California, in a wide variety of habitats ranging from sea level to 3300 meters (11,000 feet), but it is uncommon to rare above 2560 meters (8000 feet). Suitable habitats for the Yuma myotis are open forests and woodlands near water sources such as rivers, irrigation canals, ponds, streams, or creeks, which are used for foraging habitat. The Yuma myotis is known to roost in caves, abandoned buildings, and other structures. This species is known to form maternity colonies of several thousand individuals in caves or attics. Potentially suitable foraging habitat present in the BSA. The eucalyptus trees and infrastructure provide potential roosting habitat. This species is highly associated with water; therefore, the potential for this species to exist on the site is low.

Wildlife Corridors and Special Linkages

Wildlife corridors are natural habitats that link at least two distinct populations of wildlife that are separated by fragmented habitat (e.g., roads, urban environments, cultivated lands). No designated wildlife corridors were identified in the BSA. No apparent wildlife corridors were observed during the surveys by ERM in 2022. Aerial imagery also did not indicate the presence of corridors. In addition, the chain link fence surrounding the SMR acts as a barrier to large mammal movement through the BSA.

Monarch butterflies may be present in the area during the winter season and may utilize the site during migrations or may overwinter in portions of the Project site, specifically the Eucalyptus grove areas located along the southern border of the BSA. Monarch butterflies may potentially overwinter at or in the vicinity of the BSA and are most likely to be present during September through March.

4.4.2 Regulatory Setting

4.4.2.1 Federal Regulations

Endangered Species Act

The FESA of 1973 provides the legal framework for the listing and protection of species (and their habitats) identified as being endangered or threatened with extinction. “Critical Habitat” is a term within the FESA designed to guide actions by federal agencies and is defined as “an area occupied by a species listed as threatened or endangered within which are found physical or geographical features essential to the conservation of the species, or an area not currently occupied by the species which is itself essential to the conservation of the species.” Actions that jeopardize endangered or threatened species and/or critical habitat are considered a “take” under FESA. Take under federal definition means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct.

Projects that would result in take of any federally listed endangered or threatened species, or critical habitats, are required to consult with the USFWS through either Section 7 (interagency consultation with a federal nexus) or Section 10 (Habitat Conservation Plan [HCP]) of the FESA, depending on the involvement by the federal government in permitting and/or funding of the project. The FESA does not protect plants unless there is a federal nexus. Plants may not be

removed from lands under federal jurisdiction, and activities with a federal nexus have the consultation requirement described above (16 United States Code [USC] 1536 – Interagency Cooperation).

Migratory Bird Treaty Act

All migratory, non-game bird species that are native to the United States or its territories are protected under the Federal MBTA of 1918 (50 CFR Section 10.13), as amended under the Migratory Bird Treaty Reform Act of 2004. The MBTA makes it illegal to purposefully take (pursue, hunt, shoot, wound, kill, trap, capture, or collect) any migratory bird, or the parts, nests, or eggs of such a bird, except under the terms of a valid federal permit. Migratory non-game native bird species are protected by international treaty under the Federal MBTA.

Bald and Golden Eagle Protection Act of 1940 (16 U.S.C. 668)

The Bald and Golden Eagle Protection Act (16 United States Code [U.S.C.] 668-668c) was enacted in 1940 to protect bald eagles (*Haliaeetus leucocephalus*) and golden eagles (*Aquila chrysaetos*), including their parts (i.e., feathers, nests, or eggs). Pursuant to the legislation, criminal penalties may ensue for persons who “take, possess, sell, purchase, barter, offer to sell, purchase or barter, transport, export or import, at any time or any manner, any bald eagle ... [or any golden eagle], alive or dead, or any part (including feathers), nest, or egg thereof.” In addition to direct negative interaction with eagles, the legislation also stipulated that human-induced alterations to a previously used nest site is prohibited (USFWS 2023d).

Coastal Zone Management Act

The Coastal Zone Management Act was implemented in 1972 and is overseen by the (NOAA) Office for Coastal Management, to protect areas and resources within the coastal zone (16 U.S.C. 1451 et seq.). Section 307 of the Coastal Zone Management Act delegates responsibility of coastal resources and areas to states willing to participate in a federally-consistent coastal management program. California’s Coastal Zone is managed by the CCC under the California Coastal Act (CCA) and the California Coastal Management Program (CCMP) (Section 4.1.2.7). Certain activities require a federal consistency certification from the federal agency permitting the activity to the CCC to ensure, to the extent practicable, that the activity is consistent with the California Coastal Management Program.

Clean Water Act

The Federal Clean Water Act (CWA) of 1972 provides guidance for the restoration and maintenance of the chemical, physical, and biological integrity of the nation’s waters. Section 401 requires that an applicant for a federal license or permit that allows activities resulting in a discharge to waters of the United States, must obtain a state certification that the discharge complies with other provisions of CWA. The RWQCBs administer the certification program in California. Section 404 establishes U.S. Army Corps of Engineers (USACE) jurisdiction over fill materials in essentially all waterbodies, including wetlands. All federal agencies are to avoid impacts to wetlands whenever there is a practicable alternative. Section 404 established a permit program administered by the USACE regulating the discharge of dredged or fill material into waters of the United States, including wetlands. Section 404 guidelines allow the discharge of dredged or fill material into the aquatic system only if there is no practicable alternative that would have less adverse impacts.

4.4.2.2 State Regulations

California Endangered Species Act

The CESA of 1970, like the FESA, contains a process for listing of species and regulating potential impacts to listed species. State threatened and endangered species include both plants and wildlife, but do not include invertebrates. The designation “rare species” applies only to California native plants. State threatened and endangered plant species are regulated largely under the Native Plant Preservation Act (NPPA) of 1977 in conjunction with the CESA. State threatened and endangered animal species are legally protected against take. The CESA authorizes the CDFW to enter into a memorandum of agreement for take of listed species to issue an Incidental Take Permit (ITP) for a state-listed threatened and endangered species only if specific criteria are met. Section 2080 of the CESA prohibits the take of species listed as threatened or endangered pursuant to the act. Section 2081 allows the CDFW to authorize take prohibited under Section 2080 provided that: (1) the taking is incidental to an otherwise lawful activity; (2) the taking would be minimized and fully mitigated; (3) the applicant ensures adequate funding for minimization and mitigation; and (4) the authorization would not jeopardize the continued existence of the listed species.

California Fish and Game Code

Section 3511 of the CFGC includes provisions to protect Fully Protected species, such as: (1) prohibiting take or possession “at any time” of the species listed in the statute, with few exceptions; (2) stating that “no provision of this code or any other law shall be construed to authorize the issuance of permits or license” to “take” the species; and (3) stating that no previously issued permits or licenses for take of the species “shall have any force or effect” for authorizing take or possession. The CDFW is unable to authorize incidental take of Fully Protected species when activities are proposed in areas inhabited by those species. Sections 3503 and 3503.5 of the CFGC state that it is unlawful to take, possess, or destroy the nest or eggs of any bird, with occasional exceptions. In addition, Section 3513 states that it is unlawful to take or possess any migratory bird as designated in the MBTA or any part of such migratory birds except as provided by rules and regulations under provisions of the MBTA. The CDFW also manages the NPPA (Fish and Game Code Section 1900, et seq.), which was enacted to identify, designate, and protect rare plants. In accordance with CDFW guidelines, CNPS CRPR 1B list plants are considered “rare” under the CESA and are evaluated in CEQA documents.

Fully Protected species may not be taken or possessed without a permit from the California Fish and Game Commission and/or CDFW. Information on these species can be found within Sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) of the CFGC.

Section 1602 of the CFGC requires any person, state or local government agency, or public utility proposing a project that may affect a river, stream, or lake to notify the CDFW before beginning the project. If activities would result in the diversion or obstruction of the natural flow of a stream; substantially alter its bed, channel, or bank; impact riparian vegetation; or adversely affect existing fish and wildlife resources, a Streambed Alteration Agreement (SAA) is required. An SAA lists the CDFW conditions of approval relative to the proposed project and serves as an agreement between an applicant and the CDFW for a term of not more than 5 years (for standard agreements) for the performance of activities subject to this section. Implementation of the proposed Project may require a Section 1602 SAA for any impacts within the banks of drainages and extending to

the outer edge of riparian vegetation (whichever is greater) if these areas are determined to be jurisdictional by the CDFW.

Porter-Cologne Water Quality Control Act

The Porter-Cologne Water Quality Control Act (Porter-Cologne Act) serves as the primary water quality law in California and addresses two primary functions: water quality control planning and waste discharge regulation. The various RWQCBs are charged with protecting all waters of California, defined as “any surface water or groundwater, including saline waters, within the boundaries of the State.” This encompasses all waters of the state, including those not under federal jurisdiction. The Porter-Cologne Act defines “waters of the state” very broadly, with no physical descriptors, and no interstate commerce limitation. In regulating discharges of dredged or fill material, therefore, the RWQCB jurisdiction is more broad than federal jurisdiction. The discharge of dredged or fill material may constitute a discharge of waste that could affect the quality of waters of the state.

If there is no Clean Water Act (CWA) Section 404/401 nexus (such as in instances where waters of the state that are not considered waters of the United States could be impacted), compliance with the Porter-Cologne Act for impacts to waters of the state could be regulated by the RWQCB through the Waste Discharge Requirement (WDR) program, which could require obtaining a WDR permit instead of CWA Section 404/401 permits. If the Project does not qualify for an existing General Order WDR, in many situations, the new dredge/fill procedures would be followed to obtain an Individual WDR, which can be an extensive process.

California Coastal Act

The California Coastal Act (CCA) of 1976 mandates that local governments prepare a land use plan and schedule of implementing actions to carry out the policies of the CCA. The CCA protects various natural resources, including Environmentally Sensitive Habitat Areas (ESHAs) (e.g., wetlands and dunes). The California Coastal Commission (CCC), which has regulatory jurisdiction over the Coastal Zone, typically uses a Local Coastal Program (LCP) from a local municipality as the standard of review if a Coastal Development Permit is required.

The CCC’s regulations (California Code of Regulations Title 14 [14 CCR]) establish a “one parameter wetland definition” that only requires evidence of a single parameter to establish wetland conditions:

Wetland shall be defined as land where the water table is at, near, or above the land surface long enough to promote the formation of hydric soils or to support the growth of hydrophytes, and shall also include those types of wetlands where vegetation is lacking and soil is poorly developed or absent as a result of frequent and drastic fluctuations of surface water levels, wave action, water flow, turbidity or high concentrations of salts or other substances in the substrate. Such wetlands can be recognized by the presence of surface water or saturated substrate at some time during each year and their location within, or adjacent to, vegetated wetlands or deep-water habitats (14 CCR Section 13577).

4.4.2.3 Local Regulations

San Luis Obispo County Coastal Plan Policies

The San Luis Obispo County Coastal Plan Policies (1988; revised 2007) provides general plan policies and identification of detailed land use recommendations in order to carry out the policies of the California Coastal Act of 1976. Related to biological resources, the Coastal Plan contains policies that are specific to environmentally sensitive habitat (Chapter 6), and coastal watershed (Chapter 9), which are mapped in the Land Use Element (LUE). Within Chapter 6 (Environmentally Sensitive Habitat) the Coastal Plan provides specific policies for the following areas mapped on the LUE combining designation maps: sensitive habitats, wetlands, coastal streams, terrestrial environments and marine habitats. None of these mapped designations are within the Project site. Chapter 9 (Coastal Watershed) includes streams, wetlands, and lakes. No streams, wetlands or lakes are located within the Project site.

Coastal Zone Land Use Ordinance

As part of the Project, the CZLUO (1988; revised November 2013) standards and associated findings for mapped combining designations in the LUE must be considered. Applicable combining designations are identified and discussed within section of Chapter 7 of the CZLUO. For biological resource impact analysis, the following combining designations have been considered as they relate to the Project.

Sensitive Resource Area (SRA) (Section 23.07.160 through 23.07.166)

CZLUO Section 23.07.160 describes the Sensitive Resource Area combining designation as only applied by the Official Maps (Part III) of the LUE to identify areas with special environmental qualities, or areas containing unique or endangered vegetation or habitat resources. The purpose of these combining designation standards is to require that proposed uses be designed with consideration of the identified sensitive resources, and the need for their protection, and, where applicable, to satisfy the requirements of the California Coastal Act. The standards of Sections 23.07.160 through 23.07.166 apply to uses requiring a land use permit that are located within a SRA combining designation. The South County Area Plan was revised in September 2018 and does not indicate that the Project area is within a Sensitive Resource Area. However, there is SRA-designated land west of the UPRR, within the 100-foot buffer area portion of the BSA that extends from the eastern track of the rail line.

Environmentally Sensitive Habitat Area (Section 23.07.170)

CZLUO Section 23.07.170 describes the provisions that apply to development within or adjacent to (within 100 feet of the boundary of) an Environmentally Sensitive Habitat Area (ESHA) as defined by Section 23.11 (definitions). Section 23.07.170 indicates that approval of a land use permit for a project within or adjacent to ESHA shall not occur unless the applicable review body first finds that: (1) There will be no significant negative impact on the identified sensitive habitat and the proposed use will be consistent with the biological continuance of the habitat. (2) The proposed use will not significantly disrupt the habitat. Section 23.07.170 also specifies development standards to avoid any significant disruption or degradation of habitat values as well as requirements associated with development within ESHA. Circumstances in which a development project would be allowable within an ESHA include: resource dependent uses; coastal accessways; incidental public services and utilities in wetlands; habitat creation and enhancement; or restoration of damaged habitats.

Section 23.11 defines both Mapped ESHA and Unmapped ESHA. Mapped ESHA is defined as:

A type of Sensitive Resource Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and development. They include wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats and are mapped as Land Use Element combining designations. Is the same as an Environmentally Sensitive Habitat.

Although no mapped ESHA occurs within the Project site a small portion does occur west of the railroad within the 100-foot buffer area of the BSA (Figure 4.4-7).

Unmapped ESHA is defined as:

A type of Sensitive Resources Area where plant or animal life or their habitats are either rare or especially valuable because of their special nature or role in an ecosystem and which could easily be disturbed or degraded by human activities and development. They include, but are not limited to, known wetlands, coastal streams and riparian vegetation, terrestrial and marine habitats that may not be mapped as Land Use Element combining designations. The existence of Unmapped ESHA is determined by the County at or before the time of application acceptance and shall be based on the best available information. Unmapped ESHA includes but it not limited to:

- a. Areas containing features or natural resources when identified by the County or County approved expert as having equivalent characteristics and natural function as mapped other environmental sensitive habitat areas;*
- b. Areas previously known to the County from environmental experts, documents or recognized studies as containing ESHA resources; and*
- c. Other areas commonly known as habitat for species determined to be threatened, endangered, or otherwise needing protection.*

The County conducted an independent assessment of the Project area to determine areas of unmapped ESHA prior to the acceptance of the Project application. This is discussed in greater detail in Section 4.4.1.4 above.

Wetlands, Wetland Setbacks (Section 23.07.172)

As noted under CZLUO Section 23.07.172d (Wetlands, Wetland setbacks) “new development shall be located a minimum of 100 feet from the upland extent of all wetlands, except as provided by subsection d(2)”, unless a biological report determines that a greater setback should be provided. Permitted uses within the 100-foot wetland setback include passive recreation and educational uses, which are applicable to a more passive level of design. Subsection d(2) (Wetland setback adjustment) allows a reduction to the 100-foot buffer setback (but no less than 25 feet) provided mitigation is identified and the following findings are adopted:

1. The site would be physically unusable for the principal permitted use unless the setback is reduced.

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2. The reduction is the minimum that would enable a principal permitted use to be established on the site after all practical design modifications have been considered.
3. That the adjustment would not allow the proposed development to locate closer to the wetland than allowed by using the stringline setback method pursuant to Section 23.04.118a of this title.

The nearest mapped wetland to the Project area is within Oso Flaco Creek. The Project area is greater than 2,000 feet from a tributary to the creek. The potential wetlands mapped within the Project area do not meet the Coastal Commission criteria for wetlands. This is discussed in more detail in Section 4.4.5 below.

Stream and Riparian Vegetation (Section 23.07.174)

CZLUO Section 23.07.174 states that coastal streams and adjacent riparian areas are environmentally sensitive habitats. The provisions of this section are intended to preserve and protect the natural hydrological system and ecological functions of coastal streams. As stated above, the coastal stream to the Project area would be a tributary to Oso Flaco Creek and it is greater than 2,000 feet from the Project.

Terrestrial Habitat Protection (Section 23.07.176)

CZLUO Section 23.07.176 states that it is intended to preserve and protect rare and endangered species of terrestrial plants and animals by preserving their habitat. Emphasis for protection is on the entire ecological community rather than only the identified plant or animal. As noted within the section “development shall be sited to minimize disruption of habitat”, and includes the following development standards:

1. Revegetation. Native plants shall be used where vegetation is removed.
2. Area of disturbance. The area to be disturbed by development shall be shown on a site plan. The area in which grading is to occur shall be defined on site by readily-identifiable barriers that would protect the surrounding native habitat areas.
3. Trails. Any pedestrian or equestrian trails through the habitat shall be shown on the site plan and marked on the site. The biologist's evaluation required by Section 23.07.170a shall also include a review of impacts on the habitat that may be associated with trails.

The Project area is not located within an area that is currently within a Sensitive Habitat Protection combining designation. The nearest combining designation is located directly to the west of the railroad. However, all undeveloped areas of the Project site were designated as unmapped ESHA (see Section 4.4.1.4 above).

Mature Tree Protection (Section 23.05.062 and 064)

CZLUO Section 23.05.062 states that no person shall allow or cause the removal of any tree with trunks measuring eight inches or more in diameter at four feet above grade, without first obtaining a tree removal permit.

CZLUO Section 23.05.064 states that applications for tree removal in accordance with Section 23.05.062 are to be approved only when the following conditions are satisfied:

- a. Tagging required. Trees proposed for removal shall be identified for field inspection by means of flagging, staking, paint spotting or other means readily visible but not detrimental to a healthy tree.
- b. Removal criteria. A tree may be removed only when the tree is any of the following:
 1. Dead, diseased beyond reclamation, or hazardous;
 2. Crowded, with good horticultural practices dictating thinning;
 3. Interfering with existing utilities, structures or right-of-way improvements;
 4. Obstructing existing or proposed improvements that cannot be reasonably designed to avoid the need for tree removal;
 5. Inhibiting sunlight needed for either active or passive solar heating or cooling, and the building or solar collectors cannot be oriented to collect sufficient sunlight without total removal of the tree;
 6. In conflict with an approved fire safety plan where required by Section 23.05.080;
 7. To be replaced by a tree that would provide equal or better shade, screening, solar efficiency or visual amenity within a 10-year period, as verified in writing by a registered landscape architect, licensed landscaping contractor or certified nurseryman.
- c. Replacement. Any tree removed to accommodate new development or because it is a safety hazard shall be replaced, in a location on the site and with a species common to the community, as approved by the Planning Director.
- d. Tree removal within public view corridors. Tree removal within public view corridors (areas visible from collector or arterial roads) shall be minimized in accordance with Visual and Scenic Resources Policy 5.
- e. Preservation of trees and natural vegetation. New development shall incorporate design techniques and methods that minimize the need for tree removal.

4.4.3 Thresholds of Significance

The determinations of significance of Project impacts are based on applicable policies, regulations, goals, and guidelines defined by CEQA and the County. Specifically, the Project would be considered to have a significant effect on biological resources if the effects exceed the significance criteria described below:

- a. Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;

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- b. Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service;
- c. Have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means;
- d. Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites;
- e. Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance; or
- f. Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or state habitat conservation plan.

4.4.4 Impact Assessment Methodology

The impact assessment focuses on identifying potential impacts associated with implementation of the Project and is based on the site's existing conditions, the regulatory setting, and the Project description. The emphasis is on determining the potential effects of the Project on federal, state, and locally regulated species and habitats in the BSA. Direct effects or impacts are those that are caused by a project and occur at the same time and place. Indirect effects or impacts are caused by a project but can occur later in time, are farther removed in distance, and are reasonably foreseeable and related to a project. Adverse impacts could occur if a project could result in temporary or permanent modification of sensitive communities or habitats occupied by special-status species, or directly affect special-status species.

4.4.5 Project-Specific Impacts and Mitigation Measures

Special-Status Species – General

Impact #	Impact Description	Residual Impact
BIO.1	Threshold a): Would the Project directly or indirectly impact special-status plant and wildlife species and their habitats?	Class II

Demolition and remediation activities would remove some infrastructure and all contaminated soils within the existing Refinery. This is anticipated to occur primarily within the developed areas, but additional earthwork may need to occur in existing vegetated areas.

Existing vegetation would remain intact unless an area needs to be disturbed to accomplish remediation (see Chapter 2.0, Project Description). Pending site investigations, it is not feasible to indicate the precise areas of remediation that would be required. In general, it is anticipated that much of the vegetated areas within the Project site would not require ground disturbance. However, approximately 26.5 acres of vegetated areas within the Project site overlap with areas of

potential areas of disturbance (Figure 4.4-13) (also refer to Appendix A Preliminary Grading Plan Sheet 16A and 17A. These areas are noted as “Disturbed ESHA” and further identified as “ESHA Area A” through “ESHA Area L”). There is evidence of historical debris or materials in these areas (Figure 4.4-13). For this analysis, and pending further confirmation studies, it is assumed that these areas contain some degree of contamination, and a portion of these areas would require remedial action to remove impacted material. Therefore, under a ‘worst-case’ scenario, Project activities could potentially impact up to 26.5 acres of vegetation. Table 4.4.4 provides a breakdown of these areas by vegetation alliance and/or land cover type and correspond to the areas mapped on Figure 4.4-13. In addition, the testing activities (core sampling using a mobile rig) may also impact some vegetated areas, which may include sensitive natural communities, habitat for special-status species and unmapped ESHA areas.

As per Section 2.6, Project Activities: Site Stabilization and Restoration, existing vegetation that does not require ground disturbance would be protected by installing temporary barriers such as fences to restrict access to vegetated areas. Signs would be installed to delineate revegetation areas. Temporary fencing and signage would be left in place until vegetation becomes established.

Table 4.4.4 Vegetated Areas Where Potential Remediation Actions Could Occur (i.e., potential areas of disturbance)

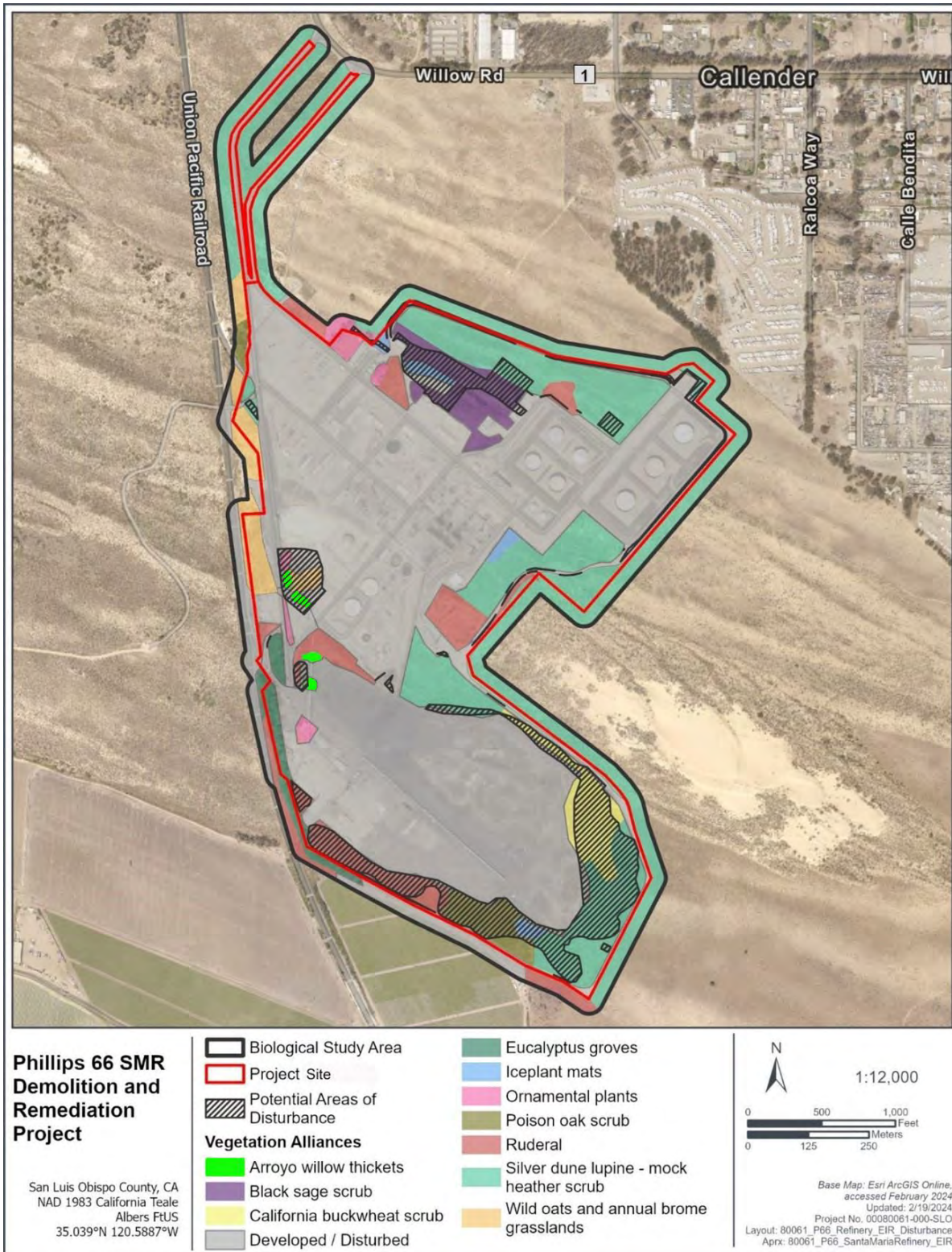
Vegetation Alliance and Land Cover Type	Potential Area of Disturbance (acres)
Arroyo willow thickets	0.3
Black sage scrub	3.0
California buckwheat scrub	4.1
Eucalyptus groves	0.1
Iceplant mats	1.0
Ornamental plants	0.3
Poison oak scrub	2.6
Ruderal/Disturbed	7.2
Silver dune lupine - mock heather scrub	7.3
Wild oats and annual brome grasslands	0.6
Grand Total	26.5

Source: Phillips 66 Application

Standard construction SWPPP BMPs would be implemented for sediment and erosion control during site demolition and site grading. Applicable BMPs may include surface roughening, mulching, and installation of silt fences and straw bale barriers to reduce erosion and sedimentation rates during vegetation establishment. Sediment control structures would be inspected and maintained until vegetation becomes adequately established.

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Figure 4.4-13 Vegetated Areas Where Potential Remediation Actions Could Occur



The BSA supports special-status plants and wildlife species listed in Section 4.4.1, Environmental Setting. The undeveloped areas provide habitat for special-status plant and wildlife species and the existing infrastructure has the potential to support nesting birds and raptors and roosting bats. Project activities, including demolition of existing structures and remediation activities, could result in impacts to special-status species and their habitats. Direct impacts could include trampling, being exposed to predation, being collected, being entombed, and loss of habitat. Indirect impacts could include stress and loss of reproductive success among relocated individuals, excessive noise resulting in site or nest abandonment, increased human activity resulting in changes to wildlife movement and behaviors, increased dust that could impact the suitability of potential roosting habitat or pollinator activity, vehicle use of the area exacerbating road kills, or introduction of invasive plant species that could change future habitat conditions. Project activities could produce a significant impact. Therefore, mitigation measures have been included below.

Mitigation Measures

BIO.1-1 *Prepare and Implement a Worker Environmental Awareness Program (WEAP):*
Prior to submittal of a County Permit, the Applicant shall prepare and submit a Worker Environmental Awareness Program (WEAP) for County approval. The submitted WEAP shall include the training program details described below, tracking and reporting criteria and examples of the forms to be used.

The Applicant or its designee shall provide Worker Environmental Awareness Program (WEAP) training to all new personnel prior to beginning work on the Project. The training may be presented in the form of a video.

The training program shall be developed by the Lead Biologist to educate Project personnel about the Project's sensitive biological resources. A draft of the training program (i.e., video and written materials) shall be provided to the County for review and approval no fewer than 90 days prior to issuance of construction permits for any ground disturbance. The training may be conducted concurrent with other environmental training (e.g., cultural resources awareness training, safety training, etc.).

The WEAP training shall include, at a minimum:

- An overview of the sensitive biological resources that are known or have the potential to occur in the Project area and surrounding habitat. This shall include nesting birds, special-status plants and wildlife, and sensitive habitats;*
- An overview of the Project, Mitigation Monitoring and Reporting Program (MMRP), and regulatory permit conditions and the consequences of non-compliance with these requirements;*
- An overview of the federal and State Endangered Species Acts, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, pertinent Fish and Game Code sections, and other applicable regulatory requirements and the consequences of non-compliance with these requirements;*

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- *Functions, responsibilities, and authority of biological monitors and how they interact with Project personnel;*
- *Identify clear points of contact for biological monitors and construction personnel including who to contact should workers have questions regarding compliance with environmental documents and permit conditions;*
- *Project restrictions, such as Environmentally Sensitive Habitat Areas (ESHAs), required setbacks from sensitive biological resources, and avoidance buffers;*
- *Requirements to remain within authorized work areas and on approved access routes, with examples of flagging and signage used to designate these areas;*
- *Information on compliance with Project speed limits, control of litter and micro trash, smoking restrictions, wildfire minimization measures, spill containment and clean up, and the implementation of Construction Best Management Practices to protect biological resources (see mitigation measure BIO.1-2);*
- *Measures to reduce the potential to introduce or spread invasive weeds into the Project area, descriptions of the Project's weed control methods, and compliance requirements for Project personnel;*
- *Identify limitations for refueling near aquatic features or where spills may enter State or federal waters; and*
- *Explanation that wildlife must not be harmed or harassed including procedures for abiding by Project speed limits, covering pipes, securing excavations, and installing exit ramps to prevent wildlife entrapment.*

Training acknowledgement forms shall be signed by each person attesting that they understand and would abide by Project requirements. The Applicant or its designee shall provide the County, within a Monthly Compliance Report, the WEAP training acknowledgement forms for persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. A hardhat sticker that can be easily verified in the field shall be distributed by the Applicant or its designee to indicate participation in the WEAP training.

Submittal Timing: *Prior to County permit issuance. **Approval Timing Trigger:*** *Training Program shall be approved prior to County Permit issuance, and provided to all new personnel prior to beginning work on the Project. **Responsible Party:*** *The Applicant or designee. **What is required:*** *Prepare and submit a Worker Environmental Awareness Program (WEAP) for implementation. **To whom it is submitted and approved by:*** *County Department of Planning and Building.*

BIO.1-2 Prepare and Submit a Biological Resources Adaptive Management and Monitoring Plan: *The Applicant or its designee shall prepare and submit a Biological Resources Adaptive Management and Monitoring Plan (BRAMMP) for implementation that*

encompasses all aspects of the biological resources protection and management at the site. A draft of the BRAAMP shall be provided to the County for review and approval no fewer than 90 days prior to issuance of any construction permits. The BRAMMP shall address:

1. **Baseline biological conditions** including sensitive vegetation and special-status species that have been recorded or could potentially occur on the Project site;
2. **Mitigation Measures:** An overview of existing and relevant mitigation measures prepared for the Project;
3. **Compliance:** Provide direction to maintain compliance with existing mitigation measures and federal, state, and local laws and regulations should CDFW or USFWS status designations for sensitive vegetation communities and special-status species change over the duration of the Project;
4. **Lead Biologist and Biological Monitor** requirements;
5. **Construction Best Management Practices;**
6. **Reporting** requirements;
7. **Surveys of Species;** and
8. **Wildlife Impact Avoidance and Minimization Measures.**

Lead Biologist and Biological Monitors. *The Applicant shall retain a Lead Biologist for all measures requiring biological environmental mitigation. The Lead Biologist shall, at a minimum, hold a bachelor's degree in biological sciences, zoology, botany, ecology, or a closely related field; have at least three years of experience in field biology or construction monitoring; and have a demonstrable knowledge of the biological resources that are present or could be present in the Project area. The Lead Biologist shall be responsible for:*

1. *Serving as the primary point of contact for the County and regulatory agencies regarding biological resources mitigation and compliance.*
2. *Managing the site Biological Monitors and ensuring that procedures for verifying compliance with biological mitigations are implemented;*
3. *Establishing lines of communication and reporting methods;*
4. *Conducting compliance reporting and coordinating with the County's Environmental Monitor (EM.1);*
5. *Conducting worker environmental awareness training regarding environmentally sensitive areas and protected species (BIO.1-1);*

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6. *Maintaining authority to stop work;*
7. *Immediately notifying the County in writing of dead or injured special-status species or any non-compliance with biological mitigation measures, permit conditions, or plan requirements; and*
8. *Conducting or overseeing bi-weekly site inspections during all Project activities at the site and communicating any remedial actions needed (i.e., trash, fencing repairs, weed maintenance, etc.) to maintain compliance with mitigation measures, permit conditions, and plan requirements.*

Monitoring shall be conducted full-time in areas where vegetation removal is required during the initial disturbances (site clearing or soil sampling) and be reduced to weekly and then monthly following initial disturbances. If wildlife is observed within the Project area during demolition and remediation activities, the crew should stop work, inform the site supervisor, and contact the Lead Biologist.

As part of the BRAMMP submittal for County approval, the Applicant shall submit the names and qualifications of their proposed Lead Biologist and supporting Biological Monitors (see below) to County Planning & Building. The contact information of the approved Lead Biologist shall be reproduced on every set of plans submitted for the Project. If the individual names of supporting/specialty Biological Monitors are not known, the specification can be to the level of company, with the understanding that the company would provide qualified personnel. Resumes shall be provided once the identifications of the Monitors are known.

Proposed Biological Monitors shall have a minimum of two years of experience in field biology or construction monitoring and demonstrated experience with the biological resources within the Project region. The responsibilities of the Biological Monitors shall be specified in the BRAMMP and include:

- *Performing preconstruction surveys and work area clearance sweeps;*
- *Compliance monitoring during Project activities, maintaining the authority to stop work when necessary;*
- *Ensuring maintenance of setbacks to ESHA and reporting when remediation may require relocation of disturbance area limits;*
- *Delineating biological resources, informing work crews regarding avoidance;*
- *Inspecting exclusionary fencing, work areas, and equipment to ensure wildlife is not trapped and relocating animals in harm's way;*
- *Verify entrapment hazards are addressed at the end of each day;*
- *Daily documentation of activities and reporting to Lead Biologist;*

- *Ensuring that construction BMPs are implemented;*
- *Ensuring wildlife impact avoidance measures are implemented; and*
- *Moving wildlife if needed.*

Construction Best Management Practices to Protect Biological Resources. *The following biological resources Best Management Practices and housekeeping measures shall be specified in the BRAMMP and implemented by the Applicant or its designee:*

1. *Photo-documentation of field conditions, including water resources within the Project work area and any off-road/overland access routes, shall be conducted prior to, during, and at completion of the Project. This documentation can then be utilized by regulatory agencies to confirm that site habitats impacted during demolition/remediation have been restored to preconstruction or better condition;*
2. *Prior to start of construction under each permit (i.e., mobilization or ground-disturbing activity), the boundaries of ESHA shall be clearly flagged or fenced so that the workers are aware of the limits of allowable site access and disturbance;*
3. *Vehicles/equipment shall be inspected for leaks daily (e.g., fuel, oil, hydraulic fluids, etc.) and repaired prior to work. Spill kits/absorbent clean-up materials should be available on site and disposed of properly. Spill pans should be placed under all equipment when not in use;*
4. *Vehicles and equipment should remain on the existing paved/disturbed areas to the extent feasible;*
5. *General housekeeping, such as covering open excavations at night, maintaining wildlife-proof fencing, performing Project trash pick-up, dust control BMPs, and use of waste bins with lids on at all times, shall be maintained within the Project area;*
6. *Cover Excavations: The following note shall be reproduced on all plans and implemented throughout the Project: During construction, all trenches, holes, and other excavations with sidewalls steeper than a 1:1 (45 degree) slope and two or more feet deep shall be covered when workers or equipment are not actively working in the excavation. If any such excavations remain uncovered, they shall have an escape ramp of earth or a non-slip material with a 1:1 (45 degree) slope or flatter. All excavated areas shall be inspected for wildlife before backfilling;*
7. *Biodegradable Erosion Control: The Erosion Control Plan (see Section 2.7, EIR Project Description) shall specify and ensure that only biodegradable products are used, as verified by the County Environmental Monitor. During construction, use erosion control products made of natural fiber (biodegradable) to prevent wildlife from getting ensnared or strangled by monofilament, coir rolls, erosion control mats or blankets, straw or fiber wattles, or similar erosion control products; and*

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8. *These measures shall be provided as notes on plans for every permit and included in the WEAP training for site workers. Additionally, all sensitive environmental areas to be avoided must be clearly identified on all construction, remediation, and demolition plans.*

Reporting. *Reports shall be submitted to the County quarterly over the first 24-36 months of activity, and thereafter may be reduced as agreed upon by the County, until construction is complete and until all mitigation criteria have been signed off on by the County, CDFW, and USFWS. The reporting shall include:*

1. *Methods and results from the literature review and surveys discussed in the BRAMMP above;*
2. *Relevant photographs and maps documenting any new occurrences of sensitive vegetation communities or special-status species (as defined by the most recent status designations during the time of the resource/database review and surveys) observed or identified;*
3. *A brief summary or list of Project activities accomplished during the reporting year (e.g. this includes all remediation and Project-related activities);*
4. *A running tally of Project impacts and locations (e.g. a running tally on remediation activities within ESHA areas) based on the findings and results of all required mitigation measures under the permit. The findings shall be provided to the County for review, along with a recommendation for habitat mitigation for impacts under that permit. At the time of final inspection, final release of each permit, provisions for any additional mitigation shall be identified and implemented before the permit is finalized;*
5. *A description of any impacts that occurred to special-status species (include cause of impact, location, and disposition of any dead or injured individuals). If newly designated sensitive habitats or special-status species are present during surveys, the County shall be notified within 24 hours, and standard practices and protection measures shall be implemented in coordination with the County to avoid potential impacts. No handling of federal or state listed plants or wildlife shall occur without the applicable regulatory permits;*
6. *A description of avoidance, minimization, and mitigation measures implemented;*
7. *Monitoring results and survey forms; and*
8. *A description and figures of area restored and habitat preserved as mitigation for impacts to sensitive natural communities and special-status species.*
9. *Impacted areas shall be revegetated in ESHA or other vegetation, but unless the area is protected in perpetuity, that area shall not be counted towards the required replacement in tracking.*

Surveys. *Surveys shall be conducted for species as described in specific mitigation measures listed throughout this section and as listed below:*

- a. *Lupine Surveys (BIO.2-1)*
- b. *Plant Surveys (BIO.3-1)*
- c. *Monarch Butterfly Surveys (BIO.4-1)*
- d. *Western, Crotch, and Obscure Bumble Bee Surveys (BIO.5-1)*
- e. *Red-Legged Frog Surveys (BIO.6-1)*
- f. *Lizard Relocation Surveys (BIO.7-1)*
- g. *Nesting Bird Survey (BIO.8-1)*
- h. *Burrowing Owl Surveys (BIO.8-2)*
- i. *Bat Surveys (BIO.9-1)*
- j. *Badger Den Survey (BIO.10-1)*

The BRAMMP shall provide a section discussing the general approach to surveys and shall address the following items.

- *A literature review of relevant reports/databases (e.g., IPaC, CNDDDB, CNPS, CCH, iNaturalist, eBird) to identify current sensitive vegetation communities and special-status species (as defined by the most recent status designations during the time of the review) that have been recorded in the vicinity (e.g., within five miles) of the Project site.*
- *Specifications of surveys procedures to include the most recent CDFW, USFWS, and/or CCC protocols. If survey protocols have not been established, the Applicant or its designee shall employ standard survey practices in coordination with the County.*
- *A table listing the timing and extent of surveys for the entire Project site.*
- *Details regarding what is required for all surveys, including reporting requirements and submission timing.*

Wildlife Impact Avoidance and Minimization Measures. *The following measures shall be included in WEAP training and described in the BRAMMP as to responsibilities for oversight and reporting, prior to County Permit issuance.*

4.4 Biological Resources

1. *Throughout all activities at the SMR site, the Applicant or its designee shall undertake the following measures to avoid or minimize impacts to wildlife resources:*
 - *The Applicant or its designee shall specify and enforce a maximum 15 mile per hour vehicle speed limit on any unpaved roads or work areas within the Project area. No Project-related pedestrian or vehicle traffic would be permitted outside of defined work area boundaries;*
 - *Night lighting, when in use, shall be designed, installed, and maintained to prevent side casting of light towards surrounding wildlife habitat;*
 - *Any soil bonding and weighting agents used for dust suppression on unpaved surfaces shall be non-toxic to plants and wildlife and approved by the Lead Biologist;*
 - *To minimize disturbance to wildlife in surrounding habitat, unnecessary noise (e.g., loud radios, vehicle horns) shall be avoided; and*
 - *Potable and non-potable water sources, such as water buffalos and water truck tanks, shall be covered or otherwise secured to prevent animals (including birds) from entering. Water applied for dust abatement shall use the minimal amount needed to meet safety and air quality standards. Water sources (e.g., hydrants, J-stands) shall be checked periodically by biological monitors to ensure they are not creating open water sources due to leaking or consistently overfilling trucks.*
2. *Trash. All trash, micro trash, and food-related waste shall be contained in vehicles or covered trash containers and removed from the site regularly.*
3. *Worker guidelines. Workers shall not feed wildlife or bring pets to the Project area. Except for law enforcement personnel, no workers or visitors shall bring firearms or weapons into the Project area.*
4. *Wildlife entrapment. Project-related excavations shall be secured to prevent wildlife entry and entrapment. Holes and trenches shall be backfilled, securely covered, or fenced. Excavations that cannot be fully secured shall incorporate appropriate wildlife exit ramp(s) at a slope of no more than a 3:1 ratio, or other means to allow trapped animals to escape. Biological monitors shall provide guidance to work crews to ensure that wildlife ramps or other means are sufficient to allow trapped animals to escape. A biological monitor shall inspect excavations for trapped wildlife routinely throughout the day and at the end of each workday.*
5. *All pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas. No pipes or tubing would be left open either temporarily or permanently, except during use or installation. Any construction pipe, culvert,*

or other hollow materials would be inspected for wildlife before it is moved, buried, or capped.

6. *Dead wildlife. Dead animals of non-special-status species found within the Project area shall be reported to the appropriate local animal control agency within 24 hours. A biological monitor shall safely move the carcass out of the road or work areas as needed. Dead animals of special-status species found in the Project area shall be reported to CDFW, NMFS, and/or USFWS within one workday and the carcass handled as directed by the regulatory authority.*
7. *Injured wildlife. The Applicant or its designee shall create and implement guidelines for dealing with injured or entrapped wildlife found on or near the Project area. These guidelines shall be provided to all Project biological monitors. If an animal is entrapped or entangled, a qualified biological monitor shall free the animal if feasible, or work with personnel to free the animal, in compliance with applicable safety regulations and Project requirements. If biological monitors cannot free the animal or the animal is too large or dangerous for monitors to handle, the Applicant or its designee shall contact and work with local animal control, CDFW, or other qualified parties to obtain assistance as soon as possible.*
8. *The Applicant or its designee shall ensure that one or more qualified biological monitors are properly trained (or receive training) in the safe and proper handling and transport of injured wildlife and are provided with the appropriate equipment. These trained and equipped monitors shall be available to capture and transport injured wildlife to a local wildlife rehabilitation center or veterinarian as needed. The Applicant shall bear the costs of any rehabilitation or veterinary treatment for any wildlife injured by Project-related activities. Any injured or entrapped special-status species found within or near the Project area shall be reported to the appropriate agencies within one workday.*

Submittal Timing: Prior to County permit issuance. **Approval Trigger:** County issuance of permit. **Responsible Party:** The Applicant or designee. **What is required:** The BRAMMP for approval and implementation. **To whom it is submitted and approved by:** County Department of Planning and Building.

BIO.1-3 Habitat Restoration and Revegetation Plan: Prior to issuance of any County permit, the Applicant or its designee shall prepare and submit for County review and approval a Habitat Restoration and Revegetation Plan (HRRP) that addresses restoration and revegetation related to all non-hardscaped areas that are being temporarily disturbed during demolition and remediation activities.

The HRRP shall expand upon the site restoration activities described in the EIR Project Description Section 2.6 by providing detailed descriptions of: 1) the type and location of vegetation to be removed; 2) identify where restoration is occurring and appropriate seed mix and species to be used; 3) weed management criteria, incorporating the specific monitoring and success criteria mentioned below; and, 4) appropriate contingency measures if success criteria are not met.

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Monitoring of the revegetation and restoration sites will continue annually for no fewer than five years. At a minimum, all revegetated sites shall have persisted successfully without irrigation or remedial planting for a minimum of two years prior to the completion of monitoring. Nonnative species percent cover cannot exceed 20 percent total cover in areas outside of ESHAs and 10 percent total cover within ESHAs, or as determined based on existing conditions with the approval of the County. This represents the minimum success criteria; however, the Applicant shall work with the County as needed to further refine quantitative and qualitative performance criteria as needed. Further refinement may take into consideration the existing site conditions including the area of existing Refinery infrastructure. Additionally, specific criteria may be different for the formerly vegetated areas versus the former hardscape areas.

The HRRP shall be submitted to and approved by the County of San Luis Obispo's Environmental Coordinator or their designee (see mitigation measure EM.1 in Chapter 4.0, Environmental Impacts Analysis), prior to issuance of permits. The HRRP shall specify how existing ESHA within and surrounding the Project site is quantified and tracked for impacts and replacement throughout construction, and provide the framework and responsibilities for minimizing impacts, salvaging seed, and managing stockpiles during remediation. Once approved, the HRRP would guide all restoration and monitoring activities. Any usable topsoil with the potential to hold the seeds of sensitive species would be salvaged and used when revegetating the area. At a minimum the HRRP shall include the following:

- *Proposed species list for creation/enhancement;*
- *Planting/seeding methodology;*
- *Details on methodologies for salvage of special-status species;*
- *Irrigation plan;*
- *Weeding schedule;*
- *Success criteria;*
- *Monitoring methodology and schedule;*
- *Reporting requirements; and*
- *Adaptive management and a contingency plan.*

The Applicant or its designee shall submit the HRRP to California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS), in addition to the County, for joint-agency review and comment. The Applicant or its designee shall incorporate all requested revisions in coordination with the County for final approval, prior to County issuance of permits impacting or allowing removal of any of the above-mentioned special vegetated areas.

The Applicant shall be responsible for execution of the approved HRRP that would re-establish appropriate vegetation in disturbed ESHA and non-ESHA vegetated areas on the site, subject to monitoring and periodic inspection by the County, CDFW, and

USFWS. Failure to adequately execute the plan or meet final success criteria shall be subject to the enforcement provisions by the County.

Submittal Timing: Prior to County permit issuance. **Approval Trigger:** County issuance of permit. **Responsible Party:** The Applicant or designee. **What is required:** The HRRP for approval and implementation. **To whom it is submitted and approved by:** County Department of Planning and Building.

BIO.1-4 Weed Management Plan. Prior to issuance of any County permit, the Applicant or its designee shall prepare and submit a Weed Management Plan (WMP) describing the proposed methods of preventing and controlling Project-related spread of weeds or new weed infestations throughout Project remediation and restoration activities. The WMP shall outline the personnel, tasks, responsibilities and schedule for implementing the following:

For the purpose of the WMP, “weeds” shall include designated noxious weeds, as well as any other non-native weeds or pest plants identified on the weed lists of the California Department of Food and Agriculture or the California Invasive Plant Council (CAL-IPC). The WMP shall be implemented throughout all activities at the site and shall include the following components:

Background. An assessment of the Project’s potential to cause the spread of noxious and invasive weeds into new areas, or to introduce new weeds into the Project area. This section must list known and potential noxious and invasive weeds occurring in the Project area and in the general region and identify threat rankings and potential consequences of Project-related occurrence or spread for each species. This assessment shall include, but is not limited to, weeds that (1) are rated high or moderate for negative ecological impact in the CAL-IPC Inventory Database (CAL-IPC 2023), and (2) aid and promote the spread of wildfires. This section shall identify control goals for each species (e.g., eradication, suppression, or containment) likely to be found within the Project area.

Preconstruction Weed Inventory. The Applicant or its designee shall inventory all areas subject to Project-related vegetation removal or ground-disturbance. The weed inventory shall include vehicle and equipment access routes within the site and staging and storage yards. Weed occurrences shall be mapped and described according to density and area covered. The map shall be updated at least once a year.

Weed Prevention. The WMP shall specify methods to minimize potential transport of weed seeds within the site and from areas outside of the site. The WMP shall specify inspection procedures for equipment and materials entering the Project area. Vehicles and equipment shall be inspected and cleaned prior to entering specified points in the Project area and before leaving the site where weed occurrences must be locally contained. Heavy equipment (e.g., graders, bulldozers, cranes, etc.) shall be cleaned of dirt and mud that could contain weed seeds, roots, or rhizomes. Equipment shall be inspected to ensure it is free of any dirt or mud that could contain weed sources. Tires, tracks, outriggers, and undercarriages shall be carefully washed. Vehicles (e.g., pick-

4.4 Biological Resources

up trucks) that are frequently entering and exiting Project work sites shall be inspected and washed on an as-needed basis. Tools, such as chainsaws, hand clippers, pruners, etc. shall be cleaned of dirt and mud before entering Project work sites.

All equipment, vehicles, and tools shall be washed off site when possible. If off-site washing is infeasible, on-site cleaning stations shall be set up at specified locations to clean equipment, vehicles, and tools before entering unpaved work sites. Wash stations are to be located a minimum of 100 feet from sensitive habitats, including ESHAs. Wastewater from cleaning stations shall not be allowed to run off the cleaning station site. When equipment and vehicles are washed on site, a daily log must be kept stating the location, date and time, type of equipment, methods used, and personnel present. The log shall contain the signature of the responsible personnel. Written or electronic logs shall be available to the County upon request and a summary included in annual reporting.

Erosion control materials (e.g., fiber rolls or hay bales) must be certified free of weed seed before entering the Project area. The WMP must prohibit on-site storage or disposal of mulch or green waste that may contain weed material. Mulch or green waste that could contain weed material shall be removed from the site in a covered vehicle to prevent seed dispersal and transported to a licensed landfill or composting facility. The WMP shall specify guidelines for any soil, gravel, mulch, or fill material to be imported into the DCPD site or transported to an off-site location.

Weed Monitoring. The WMP shall specify methods of survey for weeds throughout the Project. It shall also specify qualifications of botanist Biological Monitors responsible for weed identification and monitoring. The WMP shall include a monitoring schedule to ensure timely detection and immediate control of weed infestations to prevent further spread. Surveying and monitoring for weed infestations shall occur at least two times per year and shall coincide with the detection periods for early and late season weeds. The WMP shall also include methods for marking weed locations and recording and communicating these locations to applicable personnel. The map of weed locations (discussed above) shall be updated at least once a year.

Weed Control. The WMP shall specify manual and chemical weed control methods to be employed. The WMP shall include only weed control measures with a demonstrated record of success for target weeds, based on the most recent information available. The plan shall describe proposed methods for promptly scheduling and implementing control activity when any weed infestation is located, to ensure effective and timely weed control. Weed infestations must be controlled or eradicated as soon as possible upon discovery, and before they go to seed, to prevent further spread. All proposed weed control methods must minimize the extent of any disturbance to native vegetation, limit ingress and egress to defined work areas and access routes and avoid damage from herbicide use or other control methods to any environmentally sensitive resources in or adjacent to the site.

Any new weed infestations shall be treated at a minimum of at least once annually until eradication, suppression, or containment goals are met. For eradication, when no new

seedlings or resprouts are observed for three consecutive, normal rainfall years, or five consecutive years regardless of rainfall, the weed occurrence can be considered eradicated and weed control efforts may cease.

Manual control shall specify well-timed removal of weeds or their seed heads with hand tools. Seed heads and plants shall be disposed of in accordance with the most recent guidelines from the County of San Luis Obispo Department of Agriculture/Weights and Measures.

The chemical control section of the WMP shall include specific and detailed plans for any herbicide use. It must indicate where herbicides would be used, which herbicides would be used, and specify techniques to be used to avoid drift or residual toxicity to native and special-status vegetation consistent with any County of San Luis Obispo Department of Agriculture/Weights and Measures guidelines. All herbicide applications shall follow U.S. Environmental Protection Agency label instructions and be completed in accordance with federal, state, and local laws and regulations. Herbicide treatment shall only be implemented by a Licensed Qualified Applicator with the appropriate County permits. Herbicides shall not be applied during or within 72 hours of predicted rain or when wind velocities exceed six miles per hour. Only water-safe herbicides shall be used within 100 feet of channels or other riparian or wetland features.

The Weed Management Plan shall detail the compliance tracking and reporting schedule of the above requirements and include sample reporting forms. Weed management compliance activities shall be reported to the County at least four times per year during active remediation and revegetation (i.e., the first 24-36 months from the first grading permit issuance). Based on completion of remediation efforts and progress of restoration activities at the Project site, the frequency and responsibility of management and reporting may be modified upon mutual agreement between the Applicant or its designee and the County.

Submittal Timing: Prior to County permit issuance. ***Approval Trigger:*** County issuance of permit. ***Responsible Party:*** The Applicant or designee. ***What is required:*** The WMP for approval and implementation. ***To whom it is submitted and approved by:*** County Department of Planning and Building.

Residual Impacts

Implementation of mitigation measures BIO.1-1, BIO.1-2, BIO.1-3, and BIO.1-4 would minimize the direct and indirect impacts to special-status plants and wildlife and their habitats during construction, and with these training, avoidance, minimization, and mitigation measures (including those listed below), impacts would be **less than significant with mitigation (Class II)**.

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Special-Status Plants

Impact #	Impact Description	Residual Impact
BIO.2	Threshold a): Would the Project impact Nipomo Mesa lupine, a state and federally endangered plant species?	Class II

Nipomo Mesa lupine was observed in several locations in the BSA as well as within the Project site fence line during the 2022 and 2023 botanical surveys (see Section 4.4.1.5).

The Project could remove or affect up to 26.5 acres of ESHA which provides potential habitat for Nipomo Mesa lupine (Figure 4.4-13). These 26.5 acres include areas presumed occupied and known to be occupied (i.e., where plants have been observed) (Figures 4.4-9 through 4.4-13). Specifically, Disturbed ESHA Area J encompasses 16.87 acres of vegetated area around the coke storage area and overlaps with 0.72 acres of the Nipomo Mesa lupine occurrence mapped in the southeast corner of the Refinery in 2022 by ERM (ERM 2023). In addition, the testing activities (core sampling using a mobile rig) may also impact some vegetated areas. The mobile rig could crush individuals if sampling is done during the blooming period and avoidance zones are not established, which could result in direct take. However, this can be avoided by restricting sampling windows, conducting preconstruction surveys for the plant, ensuring avoidance areas are delineated, and having a Biological Monitor present.

An unknown amount of direct take could also occur if dormant seeds are located in areas where core sampling is occurring, and core sampling occurs relatively close to existing or historical plant areas. However, this small amount of disturbance would occur within the 26.5 acres identified on Figure 4.4-13 and can be addressed through retention of surface soils. Asphalt emulsion coating is defined as hardscape in Section 2.0, Project Description; however, there is a possibility that a seed bank persists in these areas that are relatively close to existing or historical plant areas. These areas would remain undisturbed unless remediation is required. If remediation activities occur in areas with asphalt emulsion coating, this could possibly result in direct impacts to Nipomo Mesa lupine seed bank.

In addition to direct impacts, ground disturbance and remediation activities could have indirect impacts to plant populations through the interruption of pollinators via dust and noise disturbance. Little is known about Nipomo Mesa lupine's breeding system. There is consensus among researchers that the species is likely capable of both selfing and outcrossing, although a specific pollinator has yet to be identified (USFWS 2020). If the ability for the plant to successfully outcross is diminished from demolition and remediation activities interrupting pollinator behavior, this could either reduce successful reproduction or further reduce genetic diversity by promoting selfing.

Indirect impacts could also occur from demolition and remediation activities through the alteration of microhabitat conditions. There are areas potentially requiring remediation along the existing roadways; several of these areas are adjacent to mapped occurrences of Nipomo Mesa lupine. Approximately 35 individuals were mapped north of the Project site in 2023 (Figure 4.4-11). The fence around the SMR appeared to be creating a microenvironment akin to the base of a stabilized dune. Disturbances immediately inside the Project fence may have negative indirect impacts on

adjacent occurrences through changes to microhabitat conditions. Nipomo Mesa lupine are only known to occur in very specific microhabitat conditions (USFWS 2020). Subtle changes to the habitat in areas where plants have been documented could preclude seeds from successfully germinating and reproducing in the future. Therefore, these occurrences could be indirectly impacted by remediation activities unless avoidance and minimization measures (such as buffer areas) are implemented. Additional surveys during and after remediation activities are also necessary to determine the potential extent of indirect impacts.

Due to the known presence of Nipomo Mesa lupine within the Project site and immediately outside of the Project site, and the presence of suitable habitat in undocumented portions of the Project site, demolition and remediation activities could have significant direct and indirect impacts to Nipomo Mesa lupine.

Avoidance of all Nipomo Mesa lupine habitat is preferred; however, remediation activities could result in direct take of habitat and may potentially impact known occupied areas. If take were necessary, the Applicant must first obtain all necessary approvals and concurrence with the CDFW that are required for the take of a federal and state-listed plant.

The BSA encompasses a significant portion of what USFWS calls Occurrence #1 in the species' recovery plan (USFWS 2021). Achieving a resiliency for Occurrence #1 (which was defined as no fewer than 1,000 reproducing individuals) is critical for the recovery of the species (USFWS 2021). Significant impacts to suitable habitat within this Occurrence Area, particularly in areas where a dormant seed bank may persist, may jeopardize the recovery of the species unless mitigation can sufficiently offset these impacts. Proposed mitigation that would prevent jeopardizing recovery consists of avoiding known population areas (i.e., where germination has been documented), preserving and managing known occupied habitat areas, restoring appropriate microhabitat conditions in disturbed habitat areas as to promote reoccupancy (i.e., germination and reproducing individuals), managing habitat to reduce or eliminate threats from non-native species (particularly veldt grass), and establishing a permanent conservation.

Mitigation Measures

BIO.2-1 Nipomo Mesa Lupine Surveys: The following measure shall be included in the BRAAMP and implemented as part of the biological monitoring. Additional site-wide surveys for Nipomo Mesa lupine (NML) shall be conducted by a qualified botanist prior to initial construction permit issuance and annually thereafter until five years after demolition and remediation work is complete (or until site restoration requirements are met). Surveys after completion of demolition and remediation activities are required to quantify any indirect impacts to previously occupied areas. Surveys shall be conducted at identified appropriate times based on seasonal weather conditions and shall follow the methods outlined in CDFW 2018 and CNPS 2001. Each survey year shall also include a late bloom survey (May to December) to maximize detection (CDFW 2023a). Surveys shall be done prior to the initial construction permits being submitted, and annually thereafter, with the updated information incorporated to subsequent permits until all Project-related demolition and remediation permit activities are completed. Areas to be avoided shall initially be informed by previous surveys and clearly delineated on all demolition and remediation plans and submitted

to the County in support of construction permits. The results of NML surveys shall be included in the annual monitoring report required in measure BIO.1-2.

Submittal: See mitigation measure BIO.1-2 BRAMMP.

BIO.2-2 Nipomo Mesa Lupine Avoidance: The following measure shall be contained in the BRAAMP, implemented as part of the biological monitoring and shall be reproduced on all plans. Known locations of Nipomo Mesa lupine shall be avoided unless all necessary approvals and concurrence with the CDFW that are required for the take of a federal and state-listed plant are first obtained. Known population areas plus a 25-foot buffer shall be identified on all plans submitted to the County for approval. The known population boundaries mapped in previous years, plus any expansions observed during surveys conducted in the year of Project activities, would constitute the known population area to be avoided (which is different than the presumed occupied area). A minimum of a 25-foot buffer shall be placed around all known population areas within 100-foot of Project activities to avoid potential indirect impacts and changes to microhabitats that support the species. These buffers shall be flagged/fenced and avoided during construction. A qualified biologist shall conduct preconstruction surveys in all areas and verify that all known population areas plus a 25-foot buffer are properly flagged/fenced and shall have the authority to expand this buffer as needed based on site conditions and observed plants. Tracking shall be done through daily monitoring logs and summarized in annual reports as described in measure BIO.1-2.

If an incidental take authorization is obtained and other measures implemented based on discussions with CDFW, the Applicant shall submit to the County a copy of the take authorization permit.

Submittal: See mitigation measure BIO.1-2 BRAMMP.

BIO.2-3 Nipomo Mesa Lupine Habitat Mitigation and Creation: The County-approved HRRP (BIO.1-3) shall include methods of restoring and enhancing Nipomo Mesa lupine at a 3:1 ratio (based on square feet cover of individual plant) for permanent impacts to individuals. The HRRP shall also focus on restoring and enhancing sensitive communities and rare plant associations immediately adjacent to known Nipomo Mesa lupine populations in order to promote expansion of the existing population (see ESHA mitigation measure BIO.12-1). At a minimum, the HRRP shall include the following elements for the Nipomo Mesa Lupine:

1. Identification of locations, amounts, size and types of plants to be replanted, as well as any other necessary components (e.g., temporary irrigation, amendments, etc.) to ensure successful reestablishment.
2. Quantification of impacts based on actual activities and quantification of mitigation areas such that the replacement criteria are met (3:1 ratio (based on square feet cover of individual plant)).

3. *A program schedule and success criteria for a minimum five-year monitoring and reporting program that is structured to ensure the success of the HRRP.*
4. *Provide for the in-kind replacement of Nipomo Mesa lupine individuals that are removed or damaged at a 3:1 ratio (based on square feet cover of individual plant) within the designated restoration area with 100% success in 5 years.*
5. *Identification of access and methods of materials transport to the restoration area, including personnel, vehicles, tools, plants, irrigation equipment, water, and all other similar supplies. Access shall not result in new or additional impacts to habitat and special-status species.*
6. *The required program shall incorporate an invasive species control program and be implemented by qualified personnel to ensure that the invasive species control program does not result in any additional impacts to Nipomo Mesa lupine, or other rare species.*
7. *If individual Nipomo Mesa lupine are to be impacted, a qualified biologist shall collect seed and deposit accessions into a permanent conservation seedbank established for the species at the Santa Barbara Botanic Garden or equivalent. The topsoil of impacted habitat shall be collected prior to ground disturbance (site clearing or soil sampling) in order to preserve the seed bank. Topsoil shall be relocated to restored habitat areas to promote the expansion of occupied habitat. Criteria shall be prepared in coordination with the USFWS and CDFW from non-impacted individuals to provide additional backup seeds to the U.S. Department of Agriculture's National Laboratory for Genetic Resource Preservation seed vault, located in Fort Collins, Colorado. The specifics of seed collection and details of the mitigation shall be provided in the HRRP.*
8. *The locations of proposed restoration area for mitigation shall be delineated and restored or reestablished NML population areas. If on-site mitigation is not feasible or would not be biologically viable and therefore would not adequately mitigate the loss of biological functions and values, off-site mitigation through habitat creation and/or acquisition and preservation in perpetuity shall be identified, preferably within the Nipomo Dunes complex.*
9. *The proposed restoration area(s) shall be protected in perpetuity by an easement or deed restriction in a form approved by County Counsel. The easement shall either be an open space easement, or a conservation easement if required by the California Department of Fish and Wildlife and United States Fish and Wildlife Service, or if chosen by the Applicant. The easement shall be in a form approved by County Counsel and CDFW and/or USFWS if required by those agencies.*
10. *The HRRP shall address success criteria for reestablished areas based on CDFW criteria and funding shall be provided by the Applicant until these success criteria are achieved.*

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Upon successful completion of the program and subsequent approval by the permitting resource agencies, the applicant shall consider providing non-profit organizations such as California Native Plant Society and The Land Conservancy with long term access to the restoration site for the purposes of education, and long-term maintenance of the restoration site. Long-term maintenance activities would only occur if permitted by the applicant and would require coordination with California Department of Fish and Wildlife and United States Fish and Wildlife Service. If restoration is onsite, access to the site is not guaranteed as a result of this measure. Funding for any future long-term maintenance activities shall be facilitated by the non-profit organization.

Submittal: See mitigation measure BIO.1-3 HRRP.

Residual Impacts

Direct and indirect impacts to Nipomo Mesa lupine could occur as a result of demolition and remediation activities. Because the Phillips 66 property encompasses a significant portion of what USFWS calls Occurrence #1 in the species' recovery plan (USFWS 2021) and achieving resilience in Occurrence #1 is critical to the recovery of the species, the above avoidance and mitigation measures incorporate activities recommended as specific recovery actions. These include: avoiding known population areas (i.e., where germination has been documented), preserving and managing known occupied habitat areas; restoring appropriate microhabitat conditions in disturbed habitat areas as to promote reoccupancy (i.e., germination and reproducing individuals); managing habitat to reduce or eliminate threats from non-native species (particularly veldt grass); and, establishing permanent conservation protection via easement or deed restriction in a form approved by County Counsel. Therefore, with implementation of mitigation measures, the Project would not preclude the recovery of Nipomo Mesa lupine and impacts would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
BIO.3	Threshold a): Would the Project impact CRPR 1-4 plant species, specifically Blochman's leafy daisy, dune larkspur, Blochman's ragwort, California spineflower, sand almond, and ocean bluff milk-vetch?	Class II

Blochman's leafy daisy, dune larkspur, Blochman's ragwort, California spineflower, sand almond, and ocean bluff milk-vetch were found during botanical surveys in several locations within the BSA. In general, most of the vegetated areas within the Project site would not require ground disturbance. However, approximately 26.5 acres of vegetated areas within the SMR Project site were identified as potentially containing historical debris or materials that may require remediation. These areas were identified as Disturbed ESHA and further broken down as Disturbed ESHA Areas A through L (refer to Preliminary Grading Plan Sheet 16A and 17A). Disturbed ESHA Area C contains known locations of Blochman's leafy daisy. Disturbed ESHA Areas B, C, E, and F contain known occurrences of Blochman's ragwort. Disturbed ESHA Area B contains a known occurrence of California spineflower and known occurrences of sand almond. Dune larkspur and ocean bluff milk-vetch were not observed within the areas identified for potential remediation activities, but suitable habitat for these species is present. Under a worst-case scenario, where all areas identified require remediation, Project activities could potentially

impact up to 26.5 acres of suitable habitat for CRPR 1-4 species. In total, remediation activities in the areas labeled Disturbed ESHA overlap with one occurrence of Blochman's leafy daisy, eight occurrences of Blochman's ragwort, one occurrence of California spineflower, and 14 occurrences of sand almond. This would represent the direct impacts to CRPR 1-4 species as a result of Project activities.

Direct impacts could also occur to CRPR 1-4 plant species if the asphalt emulsion coating is proposed for removal. Several special-status plant species, including Blochman's leafy daisy, Blochman's ragwort and sand almond, were observed growing in areas with asphalt emulsion coating, suggesting that a seed bank still persists within the more disturbed areas of the SMR. Depending on how the asphalt emulsion coating is removed, direct impacts to the seed bank and to individual plants could occur.

In addition to direct ground disturbance, demolition and remediation activities could have indirect disturbance to plant population through the interruption of pollinators via dust and noise disturbance or the introduction of non-native species. There are areas of Disturbed ESHA mapped along the existing roadways within the Project site. Several of these areas, particularly along the northern access road, are adjacent to mapped occurrences of special-status species, including Blochman's ragwort, sand almond, and ocean bluff milk-vetch. These occurrences could be indirectly impacted by remediation activities unless avoidance and minimization measures are implemented.

Due to the known presence of multiple special-status plant species within the property boundary and immediately outside of the Project site, and the presence of suitable habitat in undocumented portions of the Project site, demolition of the existing SMR and soil remediation activities could have significant impacts on these populations unless appropriate mitigation measures are implemented.

Mitigation Measures

BIO.3-1 CRPR 1-4 Plant Species Surveys: The following requirements shall be incorporated to the BRAMMP/HRRP and implemented upon approval by the County: Populations of special-status plants shall be avoided to the maximum extent practicable. Known population areas shall be identified on all demolition/grading plans submitted to the County for approval. Additional surveys shall be conducted prior to construction permits being issued (or prior to mobilization and ground-disturbing activity) and annually thereafter until demolition and Project-related remediation work is complete. Surveys shall be conducted at identified appropriate times based on seasonal weather conditions and shall follow the methods outlined in CDFW 2018 and CNPS 2001. Areas to be avoided shall initially be informed by previous surveys and clearly delineated on all demolition and remediation plans and submitted to the County in support of permits for any demolition or remediation activity.

A minimum of a 25-foot buffer shall be placed around all known locations of special-status plant species within 100 feet of Project activities to avoid potential impacts to seed banks and microhabitats that support the species. Buffers shall be clearly shown on all demolition and remediation plans. Buffers shall be expanded by the Lead

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Biologist as needed on site if necessary. These buffers shall be flagged/fenced and avoided during construction. Tracking shall be done through daily monitoring logs and summarized in annual reports as described in measure BIO.1-2. The results of the surveys before and after construction in any area shall be compiled to an updated site plan and reported annually to the County for use with permit review in the subsequent year.

Submittal: See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.

BIO.3-2 CRPR 1-4 Plant Species Salvage: *The following measure shall be included in the BRAMMP and HRRP prior to County permit issuance: If CRPR 1-4 species cannot be avoided, the individual plants shall be salvaged (e.g., plant placed in large nursery pot and/or seed collection) for use in habitat restoration activities once Project-related construction activities are complete. Details of the proposed salvage activity would be presented in the HRRP (refer to BIO.1-3). All plants directly salvaged or propagated from collected seed shall be monitored and must survive in good health or demonstrate stable or expanding populations, for a minimum of three years, post planting, for salvage to be considered successful. Details of the salvage methodology and reporting would be presented in the HRRP detailed under measure BIO.1-3.*

Submittal: See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.

BIO.3-3 CRPR 1-3 Plant Species Habitat Creation: *The following measure and requirements shall be incorporated to the BRAMMP and HRRP prior to County permit issuance, and implemented as applicable: If CRPR 1-3 species cannot be avoided, impacts shall be mitigated through the restoration of suitable habitat at a minimum 2:1 ratio of individuals impacted to individuals restored, in coordination with the County Environmental Monitor. Impacts shall be documented and tracked throughout the Project and the area of impact and mitigation requirements for each species reported annually to the County. Compensation for impacts to CRPR 1-3 species may be achieved by either a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to remediation activities; b) off-site creation or enhancement of dune scrub communities; or c) participation in an established mitigation bank program. If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all restored or reestablished population areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. It is the responsibility of the Applicant, or designee, to track individual specimens and species impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.*

Submittal: See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.

BIO.3-4 CRPR 4 Plant Species Habitat Creation: *The following measure and requirements shall be incorporated to the BRAMMP and HRRP prior to County permit issuance, and implemented as applicable: If Project-related impacts result in the loss of more than*

10 percent of the on-site population of any CRPR 4 plant species, compensatory mitigation shall be provided at a minimum 1:1 ratio of individuals impacted to individuals restored. Impacts shall be documented and tracked throughout the Project and the area of impact and mitigation requirements for each species reported annually to the County. Compensation shall be provided for all impacts that exceed the 10 percent threshold (e.g., impacts to 15 percent of a population would only require compensation for five percent or the amount of impacts that exceed the 10 percent threshold). Compensation for impacts to CRPR 4 species may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to remediation activities; b) off-site creation or enhancement of dune scrub communities; or c) participation in an established mitigation bank program at a 1:1 mitigation ratio (one acre preserved for each acre impacted). If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all restored or reestablished population areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. It is the responsibility of the Applicant, or designee, to track individual specimens and species impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.

Submittal: See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.

Residual Impacts

Direct and indirect impacts to CRPR 1-4 plant species, could occur as a result of demolition and remediation activities, these impacts would be offset through the restoration of populations at either a 2:1 ratio for impacts to populations of CRPR 1-3 plants and at a 1:1 for CRPR 4 plants. Individual plants, if impacted, would also either be salvaged or seed would be collected and used for habitat restoration activities. With implementation of mitigation measures, impacts to CRPR 1-4 plant species would be **less than significant with mitigation (Class II)**.

Special-Status Wildlife

Impact #	Impact Description	Residual Impact
BIO.4	Threshold a): Would the Project indirectly impact monarch butterflies?	Class II

The eucalyptus grove along the western edge of the Project area and Monterey pines in the North contain suitable winter roosting habitat for aggregating monarch butterflies, although there are currently no winter roosting records within the Project site. The closest non roosting record is 0.4 mile north and the closest known winter roosting record is 2.2 miles east at the Monarch Dunes Golf Course Butterfly Preserve. Given that monarchs are known to overwinter in the area, the potential for them to roost in the eucalyptus grove on site cannot be completely ruled out. Additionally, the Nipomo Mesa is largely under-surveyed for monarch butterfly aggregations due to private property access. Monarch butterflies require specific microclimatic conditions to survive the winter and are sensitive to any habitat modifications to their overwintering sites. If monarch butterflies were overwintering in the eucalyptus grove in the Project area during construction, they

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could be indirectly impacted by construction noise and dust. The mitigation measure has been included below to ensure that monarch butterflies would not be impacted during construction activities.

Mitigation Measures

BIO.4-1 Monarch Butterfly Preconstruction Surveys: The following measure and requirements shall be incorporated into the BRAMMP prior to County permit issuance and implemented as applicable: If any project activities are scheduled between October 1st and the end of February, the Applicant or designee shall conduct preconstruction surveys of potential monarch butterfly overwintering habitat on site or adjacent to the site. The surveys shall be conducted by a qualified monarch butterfly biologist approved by the County. The resume of the proposed biologist along with the survey schedule shall be submitted to the County for review and approval no more than 14 days prior to beginning surveys. The proposed biologist must have demonstrated experience in monarch butterfly ecology and habitat in order to conduct the surveys.

If site disturbance is proposed within 200 feet of potential monarch butterfly overwintering locations and will occur (i.e., permit issuance occurs) during the aggregation season (October 1 through the end of February), surveys shall be conducted from the Project site and/or public roads for three mornings at least one week prior to planned disturbance.

If clustering monarch butterflies are observed, the following shall be implemented:

- 1. Site disturbance and construction activity within 200 feet of monarch butterfly overwintering habitat shall be prohibited while monarch butterflies are in an overwintering aggregation.*
- 2. A 200-foot buffer shall be installed with T-posts and rope and labelled as Environmentally Sensitive Habitat every 75 to 100 feet during the occupation period.*
- 3. Monitoring visits shall be conducted during daily active construction to document numbers and assure that no disturbance of the aggregation is caused by construction.*
- 4. Reporting on the survey results and any protective measures implemented shall be submitted to the County by March 15 annually.*

Submittal: See mitigation measure BIO.1-2 BRAMMP.

Residual Impacts

With implementation of the mitigation measure, impacts to monarch butterflies would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
BIO.5	Threshold a): Would the Project directly or indirectly impact western bumble bee and obscure bumble bee?	Class II

The dune scrub habitat, with an abundance of flowering plants, provides suitable habitat for western bumble bees, Crotch bumble bees, and obscure bumble bees. In general, there is limited distribution and population data for these species due to recent declines and general lack of systematic surveys across potential habitat. There are historic occurrences near the BSA for the western bumble bee and the obscure bumble bee. CDFW views these historic occurrences as important benchmarks for determining potential to occur. Therefore, a species-specific habitat assessment and targeted surveys are necessary to determine the potential to occur in the Project site, and if it does, whether it would be directly or indirectly impacted by Project activities.

In general, most of the vegetated areas within the Project site would not require ground disturbance. However, approximately 26.5 acres of vegetated areas within the SMR Project site were identified as potentially containing historical debris or materials that may require remediation. These areas may potentially be occupied by western bumble bees. Therefore, under a ‘worst-case scenario’ Project activities could temporarily impact up to 26.5 acres of potentially suitable western bumble bee habitat. This would represent the potential direct impacts to western bumble bees as a result of Project activities.

In addition to direct ground disturbance, demolition and remediation activities could have indirect disturbance to special-status bee populations through the disruption of foraging behavior from dust and noise disturbance. Because floral resources would be removed and restored during the course of this Project, there would be a temporal loss of food resources which may have an indirect impact on population levels. However, the net increase in quality and quantity of floral resources as a result of proposed restoration efforts should have a long-term benefit for the species.

If special-status bee species occur within the Project site demolition of the existing SMR could have significant impacts on these populations unless appropriate mitigation measures are implemented.

Mitigation measure BIO.5-1 requires a species-specific habitat assessment per CDFW guidelines outlined in *Survey Considerations for CESA Candidate Bumble Bee Species* (CDFW 2023c). Protocol surveys and an incidental take permit may also be required depending on consultation with CDFW to determine potential impacts and appropriate mitigation for this species.

Mitigation Measures

BIO.5-1 Surveys for Western, Crotch, and Obscure Bumble Bee and Implement Avoidance Measures: The Applicant or its designee, within one year (and at least 90 days) prior to submittal of an application for a County permit, shall conduct visual surveys to determine the presence/absence of Western, Crotch, and Obscure bumble bees. The surveys shall be conducted by a County-approved qualified biologist(s) familiar with the species behavior and life history. The resume(s) of the proposed biologist(s) shall be submitted to the County, along with the survey schedule, for review and approval no more than 14 days prior to conducting surveys. CDFW survey protocols shall be

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implemented “Survey Considerations for CESA Candidate Bumble Bee Species” (CDFW 2023c). Survey results, including negative findings, shall be submitted to the County prior to permit issuance. If survey results are negative, no further actions are required. If Western, Crotch, and Obscure bumble bee nests/colonies (or potential nests/colonies) are determined to be present during surveys, the Applicant or its designee shall develop a plan in consultation with the County following CDFW guidance and in coordination with CDFW to protect the nest/colony site(s). No construction permits shall be issued until the plan has been approved by the County.

Submittal: See mitigation measure BIO.1-2 BRAMMP.

Residual Impacts

With implementation of mitigation measure BIO.5-1, impacts to western bumble bees would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
BIO.6	Threshold a): Would the Project have direct impacts to California red-legged frogs if they are present in PW 1 and PW 2?	Class II

PW 1 and PW 2 provide marginally suitable nonbreeding aquatic habitat for California red-legged frogs, a species listed as federally threatened under the FESA and an SSC by the CDFW. The presence of the SMR drainage systems has provided a consistent source of water, which may potentially attract frogs, particularly during the dry season. Given the proximity of CNDDDB records 0.4 mile west of the Project area in a dune swale pond and 0.4 mile south in Oso Flaco Creek, frogs could disperse into these artificial water features. If frogs are present, as the water dries out frogs could potentially be displaced. Adult frogs dispersing from the drying water storage areas could be crushed or entombed during demolition and remediation activities. If tadpoles are successfully able to metamorphose prior to the water storage area drying, recently metamorphosed frogs could also be crushed or entombed during demolition and remediation activities when dispersing away from the drying area. Mitigation measure BIO.6-1 has been included below to ensure that California red-legged frogs would not be impacted during demolition and remediation activities.

Mitigation Measures

BIO.6-1 *Red-Legged Frog Assessment and Measures:* *The following measure shall be included in the BRAMMP and HRRP submitted for County approval: At least 90 days prior to submittal of a County application for construction permit for the Project, The Applicant or its designee shall prepare a California red-legged frog site assessment. The assessment shall follow USFWS Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog (USFWS 2005) for artificial water features PW 1 and PW 2, submitted to USFWS for review and copied to the County. The assessment shall be conducted by a USFWS- and County-approved biologist, with the results provided to and approved by the County. The County shall receive the name and qualifications of the proposed biologist conducting surveys for approval prior to initiating the field work under the assessment. Within 14 days of completion of the final survey, the Applicant or its designee shall provide to the County a report describing*

the findings of the site assessment. If the survey results are negative, no further actions are required. If the site assessment report and surveys indicate that red legged frogs are determined to be present, the Applicant or its designee shall develop a plan in consultation with the County and in coordination with USFWS to protect the species in accordance with USFWS Guidance (USFWS 2005). The plan shall include measures to be taken to prevent red-legged frog impacts as required by USFWS, identify reception sites to relocate red-legged frogs if they need relocation, clearance surveys and fencing requirements, and, procedures for reporting of monitoring, handling, and relocation issues. The Applicant shall submit the plan (if applicable) to the County with documentation from the USFWS that consultation has been conducted and USFWS guidance is being followed.

Submittal: See mitigation measure BIO.1-2 BRAMMP.

Residual Impacts

With implementation of the mitigation measures, impacts to California red-legged frog would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
BIO.7	Threshold a): Would the Project directly or indirectly impact California legless lizard and Blainville’s horned lizard?	Class II

Northern California legless lizard and Blainville’s (coast) horned lizard likely occur in the Project area’s sandy soils in areas of natural vegetation. Demolition and remediation activities that occur outside of current existing hardscape (with the exception of areas with asphalt emulsion coating) could result in direct impacts to these species. Demolition and remediation activities could result in individuals being crushed or entombed resulting in direct mortality. Indirect impacts could include stress and loss of reproductive success among relocated individuals, excessive noise resulting permanent deafening, increased human activity resulting in changes to wildlife movement and behaviors, increased dust could potentially impact prey activity and availability, increased vehicle use of the area could also exacerbate road kills, and the introduction of invasive plant species that could change future habitat conditions.

Mitigation Measures

*BIO.7-1 **Lizard Relocation Surveys:** The following measure shall be included in the BRAMMP submitted for County approval prior to issuance of County construction permits: Relocation surveys for special-status reptiles shall be conducted in undeveloped areas where earthwork is required for Project activities such as remediation prior to permit issuance and mobilization, or as described. Surveys shall be performed during appropriate times of year when the species are active and can be located. The following measures shall apply.*

- 1. Cover board and raking surveys for legless lizard shall be conducted between January and July. California legless lizards are not expected to move back into work areas after relocation; therefore, these surveys can be done well in advance of earthwork. The surveyor should utilize cover board methods in areas of*

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disturbance where legless lizards are expected to be found (e.g., under shrubs, other vegetation, or debris).

2. *Hand search surveys should be completed during times of year when the species are active and can be located and immediately prior to and during grading activities.*
3. *During initial ground disturbance activities, the biologist shall walk behind the grading equipment to capture California legless lizards that are unearthed by the equipment. The surveyor shall capture and relocate any legless lizards or other reptiles observed during the survey effort. The captured individuals shall be relocated from the remediation area and placed in suitable habitat outside of any current or future work areas.*
4. *Following the survey and monitoring efforts, for each new permit work area the biologist shall submit to the County a Project completion report that documents the survey date(s) and area limits surveyed, number of special-status reptiles and other reptiles captured and relocated, and a post-construction summary of the number of special-status reptiles or other reptiles taken during earthwork and remediation activities.*
5. *These requirements shall either be reproduced on each plan set submitted for permit, or included in the BRAMMP.*

Submittal: *See mitigation measure BIO.1-2 BRAMMP.*

Residual Impacts

With implementation of the mitigation measures, impacts to Northern California legless lizard and Blainville's horned lizard would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
BIO.8	Threshold a): Would the Project directly or indirectly impact special-status birds, raptors, and nesting birds?	Class II

Demolition and remediation activities would remove infrastructure and contaminated soil within the existing SMR areas. This could include up to 26.5 acres of vegetation clearing, evaluated as a 'worst case scenario'. Several special-status bird and raptor species have the potential to nest on site. These species include: Cooper's hawk, sharp-shinned hawk (*Accipiter striatus*), white-tailed kite (*Elanus leucurus*), American peregrine falcon (*Falco peregrinus*), Western burrowing owl, loggerhead shrike, and Bell's sparrow. The eucalyptus grove and Monterey pine trees on the site potentially provide suitable habitat for nesting raptors, and all the existing vegetation provides suitable habitat for nesting passerines. Additionally, several bird and raptor species may also nest on the existing infrastructure.

Migratory non-game native bird species are protected by international treaty under the MBTA (50 CFR Section 10.13). Sections 3503, 3503.5, and 3513 of the CFGC prohibit take (as defined

therein) of all native birds and their active nests, including raptors and other migratory non-game birds (as listed under the federal MBTA). The following mitigations are intended to reduce potential impacts to nesting birds to a less-than-significant level.

Mitigation Measures

BIO.8-1 Nesting Bird Preconstruction Survey and Nest Avoidance: The following measures shall be included in the Project BRAMMP prepared for County approval, prior to issuance of any County construction permits: Within 10 days prior to construction activities, including disassembling and demolition of existing structures, if permits are issued, or work occurs, between February 1 and September 15, nesting bird surveys shall be conducted. Surveys shall include a sufficient buffer area around the Project area, as determined by a qualified biologist, to the extent feasible. A sufficient buffer shall mean any area potentially affected by the Project. If surveys do not locate nesting birds, construction activities may begin. If nesting birds are located, no construction activities shall occur within 250 feet of nests or within 500 feet of raptors until chicks have fledged.

The Project biologist may recommend a buffer decrease depending on site conditions (such as line-of-sight to the nest) and the birds' level of tolerance for construction activities. The biologist shall collect data on the birds' baseline behavior and their tolerance to disturbance by observing the birds at the nest prior to construction activities. If the birds are incubating, the biologist shall record how long they stay in the nest. If nestlings are present, the biologist shall record how frequently adults deliver food and visit the nest. The biologist shall also record the birds' reaction to the biologist and how close the biologist can get to the nest before the birds' behavior is altered or they show signs of stress or disturbance. The biologist shall set the reduced buffer distance based on these data. Nesting bird buffers may be reduced up to 50 feet, while raptor nest buffers may be reduced up to 250 feet. If nest buffers are reduced, the biologist shall monitor any construction activities that take place within 100 feet of nesting birds and 500 feet of raptor nests. If nesting birds show any signs of disturbance, including changes in behavior, significantly reducing frequency of nests visits, or refusal to visit the nest, the biologist would stop work and increase the nest buffer.

If fully protected raptors are located within the Project area or within 500 feet of the Project area, a 500-foot no-disturbance buffer shall be implemented. If the 500-foot no-disturbance buffer cannot be feasibly implemented, the Lead Biologist shall contact CDFW to identify additional avoidance measures.

These requirements shall either be reproduced on each plan set submitted for construction permit or included in the BRAMMP for the Project.

Within 30 days following completion of the survey and monitoring efforts for each permit area (as applicable), the biologist shall submit to the County a Project completion report that documents the number of nests observed and actions taken to avoid impacts to nesting birds. An annual summary of activities and permits monitored

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shall be submitted to the County by December 1 for each nesting season through Project construction and remediation.

Submittal: See mitigation measure BIO.1-2 BRAMMP.

BIO.8-2 Burrowing Owl Preconstruction Surveys: The following measure shall be included in the BRAMMP prepared for County approval prior to issuance of County permits: The Applicant or its designee shall conduct preconstruction surveys for burrowing owl shall follow the California Burrowing Owl Consortium's Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993) and CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). In the event a burrowing owl is located, disturbance buffers shall be implemented as outlined in the CDFW Staff Report on Burrowing Owl Mitigation, unless a qualified biologist approved by the CDFW verifies through non-invasive methods that (1) the birds have not begun egg laying and incubation or (2) that juveniles from the occupied burrows are foraging independently and capable of independent survival. Burrows that are verified as unoccupied by the Lead Biologist may be made inaccessible to owls (e.g., by collapsing, covering, or other appropriate means). Annually and following Project completion, the biologist shall submit to the County a summary completion report that documents the locations, associated permits, results of preconstruction surveys conducted and actions taken to avoid impacts to burrowing owls.

Submittal: See mitigation measure BIO.1-2 BRAMMP.

Residual Impacts

With implementation of the mitigation measures, impacts to nesting birds would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
BIO.9	Threshold a): Would the Project directly or indirectly impact roosting bats?	Class II

Several special-status bat species including pallid bat (*Antrozous pallidus*), Townsend's big-eared bat (*Corynorhinus townsendii*), western red bat (*Lasiurus blossevillii*), Hoary bat (*Lasiurus cinereus*), and Yuma myotis (*Myotis yumanensis*) could potentially roost in the trees and infrastructure on the Project site. Additionally, as facility operations stop and staff levels decrease, the infrastructure may become more attractive as potential roosting habitat. If bats are roosting in structures during demolition activities they could be killed, resulting in direct impacts. Demolition or remediation work adjacent to bat roost sites may cause roost abandonment which could lead to indirect impacts to bats. Therefore, Project activities, including demolition, tree removal, and remediation work, could result in take of bat species or disturbance of bat roosts. The mitigation measure below would ensure that bat species are not impacted.

Mitigation Measures

BIO.9-1 Bat Preconstruction Surveys and Measures: The following measures shall be included in the BRAMMP prepared for County approval prior to issuance of County permits:

Upon Applicant submittal of demolition permits to County Planning and Building, the following shall be noted on plans: Prior to mobilization or initiation of demolition activity, the Applicant or its designee shall conduct preconstruction surveys of suitable roosting habitat features (e.g., structures and trees or snags to be removed that are greater than 20 inches diameter at breast height). Surveys shall be conducted within the Project site permitting area and a 300-foot buffer by a qualified biologist within 30 days of construction activities. Surveys shall occur during the appropriate time of day to maximize detectability to determine if bat species are roosting on site or near Project work areas. Surveys may include observational methods, echolocation monitoring, etc. to determine whether bats are present. A survey report shall be completed and submitted to the County that includes, but is not limited to, the survey methodology and biologist qualifications and, if bats are present, the colony size, roost location, and characteristics. If bats are not present and findings are negative, the report will indicate that the survey area is cleared for mobilization under the Permit.

Passive Relocation of night roosts: If a bat night roost is found, the qualified biologist shall implement passive relocation measures, such as installation of one-way valves. A report summarizing all passive relocation activities and any follow-up to verify success shall be completed and submitted to the County prior to Permit issuance.

Day roosts and maternity colonies: If surveys confirm that bats daytime roost in areas that would be impacted by the Project, Phillips 66 shall maintain a 300-foot buffer around bat daytime roost sites during Project activities. Bat maternity colonies may not be disturbed. If a bat maternity colony is found or if a 300-foot buffer around bat daytime roost sites is not feasible, the Applicant would consult with CDFW and the County to determine what additional avoidance, minimization, and mitigation measures are necessary. An updated bat mitigation report shall be submitted to the County and CDFW following implementation of any additional avoidance, minimization, and mitigation measures.

Submittal: See mitigation measure BIO.1-2 BRAMMP.

Residual Impacts

With implementation of the mitigation measures, impacts to roosting bats would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
BIO.10	Threshold a): Would the Project directly or indirectly impact American badgers?	Class II

The American badger occurs in the Project area. Project activities, demolition, and remediation work that requires excavation and ground disturbance, particularly in natural habitat areas, could result in impacts to American badger adults or young or disturbance of natal dens and abandonment by adult badgers. During the winter, badgers do not truly hibernate but are inactive and asleep in their dens for several days at a time. Because they can be torpid during the winter, they are vulnerable to disturbances that may collapse their dens before they rouse and emerge. Potential

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impacts could occur. Mitigation measures addressing surveys conducted for badger dens throughout the year Project activities occur would mitigate the impacts.

Mitigation Measures

*BIO.10-1 **Badger Den Preconstruction Survey and Relocation:** The following measures shall be included in the BRAMMP prepared for County approval prior to issuance of County permits: Preconstruction surveys for American badger shall be conducted within 30 days prior to initiating any construction activities under any permit. Preconstruction surveys shall cover the immediate areas of permit limits for any proposed demolition and remediation activities plus a 500-foot buffer.*

If suitable American badger dens are identified within the disturbance footprint, den openings shall be monitored with tracking medium or an infrared camera for three consecutive nights to determine current use. If the den is not in use, the den shall be excavated and collapsed to ensure that no animals are present during construction. If the den is occupied during the non-maternity period, badgers may be relocated by first incrementally blocking the den over a three-day period, followed by slowly excavating the den (either by hand or with mechanized equipment under the direct supervision of a qualified biologist, removing no more than 4 inches at a time) before or after the rearing season (February 15–June 30). Passive relocation of American badgers shall be conducted under the direction of a qualified biologist after submittal of qualifications to, and approval by, the County.

If the preconstruction survey finds potential badger dens, the dens shall be inspected by the Lead Biologist to determine whether they are occupied. If a potential badger den is too long to completely inspect from the entrance, a fiber optic scope may be used to examine the den to the end. Inactive dens may be excavated by hand with a shovel to prevent reuse of dens during construction. If badgers occupy active dens in proposed work areas between February and July, nursing young may be present.

To avoid disturbance and the possibility of direct impacts to adults and nursing young, and to prevent badgers from becoming trapped in burrows during construction activity, American badger dens determined to be occupied during the breeding season (February 15–June 30) shall be flagged. Between February and July, no grading or ground-disturbing activities shall occur within 100 feet of active badger dens to protect adults and nursing young. Buffers may be modified by the qualified biologist, provided the badgers are protected, and buffers only removed after the qualified biologist determines that the den is no longer in use.

If a potential den is located outside of the disturbance footprint but within 500 feet of ground-disturbing activities (including staging areas), dens shall be avoided by installation of highly visible orange construction fencing a minimum of 100 feet from the den, designating the area an Environmentally Sensitive Area. Fencing shall be installed in a manner that allows badgers to move through the fencing at will. No equipment, vehicles, or personnel shall be permitted within Environmentally Sensitive Areas without clear permission from a qualified biologist.

Following the survey, passive relocation activities and monitoring efforts, the biologist shall submit to the County a Project completion report that documents the permitting area, number of potential badger dens identified, the number occupied, and any avoidance or minimization measures implemented to avoid direct or indirect impacts to badgers. This information shall be included in the annual reporting.

Submittal: See mitigation measure BIO.1-2 BRAMMP.

Residual Impacts

With implementation of mitigation measures impacts to American badger would be **less than significant with mitigation (Class II)**.

Riparian Habitat or Other Sensitive Natural Community

Impact #	Impact Description	Residual Impact
BIO.11	Threshold b): Would the Project have the potential to impact silver dune lupine – mock heather scrub and Central Dune Scrub sensitive natural communities?	Class II

Approximately 33.4 acres of silver dune lupine - mock heather scrub was mapped within the SMR Project site and 33.67 acres within the 100-foot buffer area (Figure 4.4-4 and Table 4.4.1). This has been given a state rarity ranking of S3 and is considered a sensitive natural community by CDFW. In addition, there is the broader Central Dune Scrub sensitive natural community classification which includes the silver dune lupine - mock heather scrub described above and extends to the black sage scrub and California buckwheat scrub (which occurs in an existing restoration area). Impacts to these sensitive natural communities would be considered a significant impact under CEQA.

In general, it is anticipated that much of the vegetated areas within the Project site would not require ground disturbance. However, the full extent of earthwork required to fully remediate contaminated soils cannot be completely determined until further tests can be conducted. Therefore, the Applicant has identified vegetated areas within the SMR Project site that overlap with areas of potential historical debris or materials. These are the areas that, pending further confirmation studies, may require remedial action to remove impacted material. Under a ‘worst-case’ scenario, where all identified areas require remediation, Project activities could potentially impact up to 14.4 acres of Coastal Dune Scrub, of which 7.3 acres of that consists of silver dune lupine - mock heather scrub.

In addition to direct ground disturbance, demolition and remediation activities could have indirect disturbance to Coastal Dune Scrub and silver dune lupine - mock heather scrub through the interruption of pollinators via dust and noise disturbance or the introduction of non-native species.

Demolition and remediation activities could have significant direct and indirect impacts to Coastal Dune Scrub, which includes silver dune lupine - mock heather scrub habitat. Mitigation is proposed to reduce these Project impacts to less than significant. Mitigation would reduce Project impacts through the restoration and conservation of habitat. Additional on-site avoidance measures

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include worker training, fencing, and biological monitoring, would be put in place to minimize indirect impacts.

Mitigation Measures

BIO.11-1 Coastal Dune Scrub Avoidance: The following measures shall be included in the BRAMMP and HRRP prepared for County approval prior to issuance of County permits: Demolition and remediation activities shall be done in such a manner as to minimize the removal of Coastal Dune Scrub habitat, which includes silver dune lupine - mock heather scrub. If the disturbance of this sensitive natural community cannot be avoided, and the removal is approved by the County, the impacted plant community shall be replaced at a mitigation ratio of 2:1 for like kind habitat (i.e., silver dune lupine - mock heather scrub shall be replaced by restoring silver dune lupine - mock heather scrub, etc.). The compensation for the loss of habitats may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to construction; b) off-site creation or enhancement of dune scrub communities; or c) participation in an established mitigation bank program. If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all mitigation areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. It is the responsibility of the Applicant, or designee, to track the Dune Scrub impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.

Submittal: See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.

Residual Impacts

With the implementation of the mitigation measure, impacts to Coastal Dune Scrub, including silver dune lupine - mock heather scrub, would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
BIO.12	Threshold b): Would the Project directly impact unmapped ESHA?	Class II

It was determined that all the vegetation alliances mapped, except for the developed areas, meet the definition of ESHA and were thus classified as unmapped ESHA (Figure 4.4-7 and Appendix D). Even though all these areas exhibit certain physical and biological characteristics that meet the definition of unmapped ESHA, some areas have been degraded and have less cover and diversity of dune scrub plant species. Nevertheless, because they are considered unmapped ESHA, impacts to these areas are considered potentially significant under CEQA.

The Applicant proposes to minimize impacts to unmapped ESHA to the extent practicable; however, some impacts are likely and unavoidable in order to remediate contaminated soils. Areas of potential historical debris or materials were mapped in vegetated areas within the Project site (refer to Preliminary Grading Plan Sheet 16A and 17A). These areas potentially contain historical

debris or materials that may require remediation. All these areas were classified as unmapped ESHA, referred to on the grading plans as “Disturbed ESHA”, and represent the areas where unmapped ESHA may be impacted by remediation activities. Therefore, under a ‘worst-case’ scenario (i.e., all areas require remediation) Project activities could potentially impact up to 26.5 acres of unmapped ESHA. Of this, the breakdown of impacted unmapped ESHA habitat into the vegetation alliances equates to: 7.4 acres of silver dune lupine – mock heather scrub, 4.1 acres of California buckwheat scrub, three acres of black sage scrub, 2.6 acres of poison oak scrub, 1.1 acres of iceplant mats, 0.6 acre of wild oats and annual brome grasslands, 0.34 acre of Arroyo willow thickets, 0.3 acre of ornamental plantings, and 7.2 acres of ruderal (with the potential for wildlife habitat, and resources from adjacent areas to move into and utilize areas with sandy soils and vegetation and the presence of isolated species within areas designated as ornamental, ice plant and ruderal).

In addition to direct ground disturbance, demolition and remediation activities could have indirect disturbance to unmapped ESHA through the interruption of pollinators via dust and noise disturbance or the introduction of non-native species.

Demolition and remediation activities would have significant direct and indirect impacts to unmapped ESHA. Mitigation is proposed to reduce these Project impacts to less than significant. Mitigation would reduce Project impacts through the restoration and conservation of habitat to mitigate. Additional on-site avoidance measures include worker training, fencing, and biological monitoring, would be put in place to minimize indirect impacts.

Mitigation Measures

BIO.12-1 ESHA Protection Plan: The Applicant shall prepare an ESHA Protection Plan that addresses the steps that will be taken to minimize the projects impacts to ESHA to be included in the HRRP. The plan shall require the following:

- *Delineate the areas of ESHA within the Project area for each construction permit and identify on plans the square footage of ESHA, and Sensitive Communities, as applicable. The plans shall show the areas of ESHA that will be avoided and any of the areas of ESHA that will be impacted. Any disturbance or removal of ESHA must be approved by the County.*
- *Provide flagging or protective fencing as needed around the sensitive habitat area.*
- *The plan shall address measures to implement if activities require driving through any areas designated as ESHA (including site assessment and soil sampling activities). Measures shall include the Biological Monitor identifying the least disturbing access corridor, cutting vegetation at ground level within the access corridor, the use of mats to drive equipment over to reduce impacts to subsurface roots and topsoil, and the removal of mats in a timely manner.*
- *The Lead Biologist shall monitor all areas where ESHA is to be disturbed or removed. In cases of removal, the plants that can be saved shall be relocated*
- *Prior to each permit completion or final inspection, the Biologist shall quantify the area of ESHA impacted under the permit, and verify that the replacement vegetation is in kind at the ratio(s) specified.*

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- *The final ESHA Impact Summary shall be provided to County Planning for review, and incorporated into the HRRP plan for the permit. A running total of ESHA impacted and replaced shall be maintained for the Project.*

The impacted ESHA shall be replaced at a mitigation ratio of 1:1. If the ESHA removed consists of Sensitive communities (e.g., Coastal Dune Scrub and silver dune lupine – mock heather scrub), it shall be replaced at a mitigation ratio of 2:1 consistent with mitigation measure BIO.11-1. The compensation for the loss of habitats may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to construction, b) off-site creation or enhancement of dune scrub communities, or c) participation in an established mitigation bank program. If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all mitigation areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. An annual summary report of the impacted areas and mitigation acreage requirements, and updated mapping of impacted or removed ESHA within the identified Project ESHA areas shall be submitted to the County as the Project progresses, until Project permits are completed. It is the responsibility of the Applicant, or designee, to track the Dune Scrub impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.

Submittal: *See mitigation measures BIO.1-2 BRAMMP and BIO.1-3 HRRP.*

Residual Impacts

With the implementation of the mitigation measures, direct impacts to ESHA would be **less than significant with mitigation (Class II)**.

State Or Federally Protected Wetlands (Marsh, Vernal Pools, etc.)

Impact #	Impact Description	Residual Impact
BIO.13	Threshold c): Would the Project have a substantial adverse effect on state or federally protected wetlands (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	Class III

Two NWI-mapped wetlands were noted within the survey area. When examined in the field, the two NWI- mapped wetlands were found to be upland habitats that lacked wetland characteristics and, therefore, were not considered state or federally protected wetlands. Two additional potentially jurisdictional areas PW 1 and PW 2 were mapped in the BSA, but it was concluded that these features do not meet the definition of federal or state waters or wetlands.

PW 1 does not meet the definition of waters of the U.S. because it is an isolated man-made treatment ponds constructed for the purpose of stormwater evaporation. It was also not considered a water of the state because the area retains runoff subject to regulation under a National Pollutant Discharge Elimination System (NPDES) permit (ERM 2023 and SWRCB 2021).

PW 2 does not meet the definition of waters of the U.S. because it is an isolated man-made treatment pond constructed for the purpose of petroleum coke pile cooling and dust suppression runoff collection. PW 2 does not meet the definition of a water of the state because it was mapped as 0.4 acre, is artificial, was not created by modification of a water of the state, is not compensatory mitigation, is not mentioned in a water quality control plan as a water of the state, and has not resulted from historic human activities that are no longer subject to ongoing operation and maintenance (ERM 2023 and SWRCB 2021).

Coastal Act Section 30121 classifies wetlands as sites that are at least periodically covered with water and are within the state and County Coastal Zones. However, CCC regulations at CCR Section 13577(b)(1) further specify that wetlands need to have a water table at, near, or above the land surface. This characteristic is not present at PW 1 or PW 2 because these features are artificially perched and not associated with the water table; these waters rapidly infiltrate when water inputs are not present. Therefore, neither PW 1 nor PW 2 were determined to be jurisdictional as Coastal Zone wetlands. PW 3 is also not a wetland; it does not exhibit wetland characteristics such as wetland hydrology or vegetation, and it lacks water table input.

No state or federally protected wetlands were identified within the Property boundary. Therefore, impacts would be **less than significant (Class III)** on state or federally protected wetlands or waters.

Migratory Wildlife Corridors and Native Wildlife Nursery Sites

Impact #	Impact Description	Residual Impact
BIO.14	Threshold d): Would the Project activities result in temporary impacts on the movement of wildlife species?	Class II

Demolition and remediation activities would occur on developed or previously disturbed lands. No known native wildlife nursery sites or wildlife corridors occur within these areas. Demolition and remediation activities would not interfere with established native resident or migratory wildlife corridors or nursery sites. However, suitable habitat for 16 special-status animal taxa (plus nesting birds and roosting bats) was observed in the Project site. Vegetation clearance and other Project activities would occur in portions of observed suitable habitats, and noise from activities may temporarily deter wildlife from the Project area, resulting in temporary impacts on the movement of wildlife species.

Mitigation Measures

See mitigation measures related to Monarch Butterfly’s (BIO.4-1); Western, Crotch, and Obscure Bumble Bees (BIO.5-1); Red-Legged Frogs (BIO.6-1); Lizards (BIO.7-1); Nesting Birds (BIO.8-1); Burrowing Owls (BIO.8-2); Bats (BIO.9-1); and Badgers (BIO.10-1).

Residual Impacts

With the implementation of mitigation measures potential adverse impacts on wildlife corridors would be **less than significant with mitigation (Class II)**.

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Conflict with Local Policies Or Ordinances

Impact #	Impact Description	Residual Impact
BIO.15	Threshold e): Would the Project conflict with local policies or ordinances, such as the damage and degradation of ESHA?	Class II

Impacts to ESHA are proposed as part of the demolition and remediation plan (Appendix A). Section 23.07.170 (e) of the CZLUO states that “any project which has the potential to cause significant adverse impacts to an ESHA be redesigned or relocated so as to avoid the impact or reduce the impact to a less than significant level where complete avoidance is not possible.”

In this case, based on the ‘worst-case’ scenario of the extent of remediation activities, the Project would impact 26.5 acres of unmapped ESHA. However, these impacts are the result of remediation activities and can be technically considered one of a number of the above listed allowable projects (see Section 4.4.2.3 listing of allowable projects within ESHA per Section 23.07.170 (e)(1)(v) of the CZLUO), including: “resource dependent projects” where the removal of the SMR facility is dependent on the SMR facility location as well as the contaminated soils located at that site for remediation of contaminated soils; and “habitat creation and enhancement” due to the potential damage to ESHA from the remediation phase of the Project and the requirement to create additional ESHA habitat. The allowable project defined as “restoration of damaged habitats” is less applicable as the Project does not proposed changing the site use and is restoring the ESHA only due to the remediation of contaminated soils and the associated damage to ESHA from that activity.

Because the Project is located within and adjacent (within 100 feet) to unmapped ESHA and could impact this ESHA, the impact to ESHA could be significant unless mitigation measure BIO.12-1 is implemented. These types of impacts are potentially inconsistent with CZLUO’s development standards covering ESHA with the applicable of mitigation.

Mitigation Measures

See mitigation measure BIO.12-1.

Residual Impacts

With implementation of mitigation measure BIO.12-1, the Project would be consistent with the CZLUO’s development standards for projects within or adjacent to (within 100 feet of the boundary of) ESHA, since the mitigation measure would require minimizing impacts to ESHA to the maximum extent feasible and require the creation and restoration of any area impacted. Therefore, with mitigation measures impacts to ESHA would be **less than significant with mitigation (Class II)**.

Protected Trees Within the Coastal Zone

Impact #	Impact Description	Residual Impact
BIO.16	Threshold e): Would the Project directly impact protected trees within the coastal zone (All trees with a diameter of 8 inches or more at 4 feet above grade) per Section 23.05.062 of the CZLUO?	Class II

Under the CZLUO Section 23.05.062, all trees with a diameter of eight inches or more at four feet above grade are protected. There is a grove of planted mature Monterey pine trees in the northern part of the Project site (Figure 4.4-9) and a grove of eucalyptus trees along the southwestern edge (Figure 4.4-4). At least one of the Monterey pine groves overlaps with potential remediation area Disturbed ESHA Area A and there is a small area of overlap with the eucalyptus grove and Disturbed ESHA Area K. Therefore, Project demolition and remediation activities may require the removal of trees. Removal of any of these trees would constitute a significant impact to protected trees within the coastal zone. Mitigation provides for tree avoidance or tree replacement.

Mitigation Measures

*BIO.16-1 **Tree Avoidance and Replacement:** The following measures shall be included in the BRAMMP and HRRP prepared for County approval prior to issuance of County permits: All trees with trunks equal to or greater than eight inches in diameter at four feet above grade shall be avoided to the maximum extent practicable. If avoidance is not feasible, the Applicant shall obtain a tree removal permit, as required pursuant to Section 23.05.064 of the CZLUO. Trees removed with trunks equal to or greater than eight inches in diameter at four feet above grade shall be replaced at the County standard 4:1 ratio, with in-kind species or a similar, native variety, and success is measured as 75% (three out of four) surviving at least five years.*

The location of replacement trees shall either be on site or within the larger property owned by Phillips 66. Compensatory mitigation shall be a condition of the Grading or the Demolition permit that requires tree removal, and the proposed tree replacement species and location shall be identified with the Permit. Prior to the Permit Inspection, the proposed Tree Monitor and a Tree Replacement Monitoring Plan shall be provided to the County for review; the replacement trees shall be planted and verified by the County prior to final Permit signoff. Compensatory mitigation trees shall be caged for protection, provided with temporary irrigation, and monitored on a quarterly basis at minimum. Any required maintenance shall also occur on a quarterly basis, at minimum. Maintenance activities would include weeding, debris removal, replanting (if necessary), repair of any vandalism, fertilizing, and/or pest control and would be dictated by the results of the quarterly monitoring effort. Supplemental water shall be provided for no more than three years after planting. Monitoring reports of the quarterly inspections and maintenance shall be prepared and submitted to the County on an annual basis. Tree replacement efforts shall achieve 75 percent success at the end of a five-year growth period (i.e., from planting date of the oldest 3 trees) and require no further maintenance for survival. The annual monitoring report submitted at Year 5 from installation of at least three replacement trees (for each mature tree removed) shall serve as a final completion report denoting success.

***Submittal:** See mitigation measure BIO.1-2 BRAMMP.*

Residual Impacts

With implementation of the mitigation measure, impacts to protected trees would be **less than significant with mitigation (Class II)**.

Habitat Conservation Plans

Impact #	Impact Description	Residual Impact
BIO.17	Threshold f): Would the Project conflict with the provisions of an adopted habitat conservation plan, natural community conservation plan, or other approved local, regional, or state habitat conservation plan?	Class III

According to the CDFW, there is no regional conservation plan (habitat conservation plan or natural community conservation plan) adopted within the County (CDFW 2023b). Project activities would not conflict with any approved local, regional, or state habitat conservation plans. Therefore, impacts would be **less than significant (Class III)**.

4.4.6 Mitigation Measure Impacts to Other Issue Areas

None of the mitigation measures would produce impacts to other issue areas. Requirements entail mostly surveys and protection of existing areas. Requirements related to revegetation would require ongoing water use, but water use would remain substantially below historical water use levels and would not produce any impacts (see Section 4.10, Hydrology and Water Quality).

4.4.7 Cumulative Impacts

For the purposes of this cumulative impacts analysis, there are five projects that are located within an approximately five-mile radius to the Project site where there is the potential for impacts related to biological resources to combine with the Project, potentially creating a cumulative impact (see Table 3.1 and Figure 3-1). These projects are:

- Phillips 66 Co. – SMR Site Remediation Project (Northern Inactive Waste Site [NIWS]);
- SMR Off-site Facilities Removal;
- Caballero Battery project;
- Dana Reserve Specific Plan; and
- Monarch Dunes Specific Plan Amendment.

Other projects are listed in Chapter 3.0, however, capping the geographic extent of this analysis at a five-mile radius is appropriate because the biological resources within this area (i.e., the Guadalupe Nipomo Dunes) are highly endemic. Therefore, the impacts from these projects are expected to be similar to those that would occur in and around the SMR Project area. Cumulative impacts could occur if other projects, in conjunction with the Project, would have impacts on biological resources that, when considered together, would be significant without mitigation.

The NIWS SMR Site Remediation Project resulted in impacts to Central Dune Scrub habitat including silver dune lupine – mock heather scrub in habitat areas known to support Nipomo Mesa lupine and other CRPR plant species that occur within the SMR Project area boundary. Implementation of this project also included avoidance measures similar to those proposed in

Section 4.4.5 above and also included the development and implementation of a Habitat Restoration Plan.

The combination of these projects has the cumulative impact of a temporal loss of habitat and consecutive disturbance events to wildlife through construction activities occurring in relatively close proximity to each other over consecutive years. However, through the demolition and remediation of the SMR plant, there would be a net decrease in the overall disturbance to wildlife in the area as a result of decreased activity from operations. Although there would potentially be a cumulative temporal loss of habitat, there is anticipated to be an overall net increase in the quality of habitat and an expansion of populations of special-status plant species from restoration activity. Restoration activity would also target the reduction of invasive weeds, which are currently decreasing the value of habitat areas for special-status plant and wildlife species.

The removal of the remaining SMR off-site facilities after completion of the Project are not likely to impact similar resources such as Central Dune Scrub habitat, silver dune lupine – mock heather scrub in habitat, or areas known to support Nipomo Mesa lupine or other CRPR plant species and disturb nesting birds, due to their inland locations.

The Dana Reserve Specific Plan would result in a decrease in habitat for special-status plant and wildlife species. Both the Dana Reserve Specific Plan and the SMR Demolition and Remediation Project area contain sandy soils but support very different plant communities. The Dana Reserve Specific Plan area is dominated by oak woodland and forest, burton mesa chaparral, and non-native annual grassland. It does not provide suitable habitat for the Nipomo Mesa lupine or several of the other special-status plant species that are more specifically tied to dune ecosystems. However, it does support a robust population of sand almond, which would be impacted by the proposed development. Implementation of mitigation measures would either protect or salvage existing sand almond bushes on the SMR Project site or replant sand almonds or restore sand almond habitat, such that there would be a net increase in this plant species on site. The Dana Reserve Specific Plan has similar mitigation measures to avoid, salvage and create additional habitat areas for this and similar sandy soil dependent species. Thus, cumulative impacts would be less than significant.

The Dana Reserve Specific Plan area and the SMR Demolition and Remediation Project area also provide suitable habitat for several similar special-status wildlife species, such as monarch butterflies, northern California legless lizard, Blainville's horned lizard, American badger, nesting birds and raptors, and roosting bats. The existing structures on site have been identified as potentially providing suitable nesting habitat for raptors; however, it is not comparable to the amount of suitable nesting habitat provided within the oak woodlands within the Dana Reserve Specific Plan that would be impacted by development. The demolition of the existing infrastructure and removal of mature trees in combination with the significant loss of oak woodland habitat from the Dana Reserve Specific Plan project, could potentially result in a significant cumulative loss of habitat for nesting birds and raptors and roosting bats. Implementation of mitigation measures would reduce Project impacts from the Dana Reserve project area. The Dana Reserve Specific Plan project incorporates similar avoidance and minimization measures, including habitat restoration and preservation; thus, cumulative impacts would be less than significant.

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The Monarch Dunes Specific Plan Amendment may result in a net decrease in planned park area and potentially a net decrease in suit roosting habitat for monarch butterflies, nesting birds and raptors. The SMR Demolition and Remediation Project does not propose to remove the grove of eucalyptus trees; therefore, the only direct impacts to monarch butterflies and nesting birds and raptors would be through direct disturbance during demolition and remediation activities. These impacts would be minimized through the implementation of mitigation measures. If mature trees are removed, they would be replaced per mitigation measure. Therefore, the combination of the SMR Demolition and Remediation Project and the Monarch Dunes Specific Plan Amendment is not likely to result in significant cumulative impacts to monarch butterflies and nesting birds and raptors.

In general, impacts caused by the implementation of the Project would be temporary and would be reduced by the implementation of the specified mitigation measures. Moreover, due to the restorative nature of the Project, the long-term impacts on biological resources would ultimately be beneficial. Mitigation measures would result in the net increase in sensitive dune scrub habitat and habitat for special-status plant and wildlife species, including those that may also be impacted by the other projects listed above. Therefore, the anticipated cumulative loss of habitat that the Project would contribute to would be less than cumulatively considerable and less than significant with mitigation.

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4.5 Cultural and Tribal Cultural Resources

This section analyzes potential impacts to cultural and tribal cultural resources that would be caused by implementation of the Project. This includes impacts to prehistoric archaeological sites, historic-era structures and buildings, and the potential for newly discovered archaeological resources, which could potentially be impacted by demolition, excavation, and/or remediation activities associated with the Project.

This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition of aboveground infrastructure and remediation of the site, followed by surface stabilization, re-hardening or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

4.5.1 Environmental Setting

The following discussion is provided as a framework for the types of known cultural resources, and the types that may occur, within the Project vicinity.

4.5.1.1 Prehistoric and Cultural Setting

California prehistory can be generally divided into four geological time periods: Terminal Pleistocene, Early Holocene, Middle Holocene, and Late Holocene, as described below.

Terminal Pleistocene (13,500–11,700 B.P.) through Early Holocene (11,700–8,200 B.P.)

Occupation of the California coast occurred by at least 12,000 years Before Present (B.P.), with the earliest radiocarbon dates coming from the Santa Barbara Channel Islands as evidenced by Daisy Cave (CA-SMI-261) on San Miguel Island and the Arlington Spring site (CA-SRI-1730) on Santa Rosa Island (ERM 2022). These sites indicate a maritime adaptation that emphasized exploitation of marine mammal and shellfish. On the mainland, the Rancho La Brea tar pits contain some of the most well-known early sites, while radiocarbon dates from Malaga Cove (CA-LAN-138) suggest occupation occurred as at least as far back as 10,000 B.P.; however, disagreements about methodologies render the results somewhat inconclusive (ERM 2022). These sites also roughly correspond with the presence of large projectile points and the lack of grinding implements, potentially a more mobile population that practiced seasonal exploitation of large terrestrial and marine mammals. No Terminal Pleistocene archaeological sites or fluted projectile points, often characteristic of this period, have been identified around the Guadalupe-Nipomo Dunes Complex and vicinity. This is potentially due to the small archaeological manifestation of a small and highly mobile population, who may have resided along the coast and whose sites have been eroded or inundated (ERM 2022).

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The Early Holocene represents semi-mobile hunter-gatherers utilizing marine, lacustrine, and terrestrial resources. The chronology at the Cave of the Chimneys site (CA-SMI-603) on San Miguel Island is one of the best-preserved Early Holocene sites that has produced radiocarbon samples indicating continuous site occupation that spanned more than 7,000 years (ERM 2022). Characteristic artifacts change to include milling tools, including handstones and slabs, large core and cobble implements, flake tools, and bifaces.

Middle Holocene (8,200–4,200 B.P.)

Preservation differences and population expansion along the California coast and into the interior regions likely account for the increasing number of Middle Holocene sites. Sites from the Middle Holocene are characterized by the change to a more diversified subsistence regime, with an emphasis on marine resources, such as seeds, nuts, and grasses and supplemented by hunting a broad range of small- to medium-size terrestrial mammals. This emphasis enabled larger, semisedentary populations to establish around coastal inlets and estuaries. Midden deposits at coastal and inland sites begin to appear in the archaeological record with some frequency during this period, suggesting longer occupation of single sites and residing for longer periods, as part of seasonal subsistence activities. Mortars and pestles began appearing in greater numbers, while inversely, larger milling slabs decreased in number, projectile points diminished in size, and shell beads and ornaments were introduced. Adaptation during this period is more diverse, with a wider range of site locations, including coastal and inland.

Late Holocene (4,200–180 B.P.)

The Late Holocene represents a marked increase in population and social, political, and economic complexity. During the late Holocene, California experienced a growth in population overall, and ethnographic and archaeological data indicate villages were able to support larger groups and became increasingly more sedentary in their lifeways. Ritual and ceremonial activity had an increasingly prominent role in societies, indicated by the occurrence of ritual or ceremonially associated items becoming more prolific and mortuary items becoming increasingly more elaborate and highly stylized. Political systems, particularly along the coast, grew in importance and influence in the region.

Subsistence practices among coastal groups emphasized marine resources, such as shellfish, including abalone, California mussel (*Mytilus californianus*), and Pismo clam (*Tivella stultorum*), vast kelp forests, marine mammals, and fish. Fishing grew in importance during this time with a particular emphasis on pelagic fish species (i.e., fish species that inhabit the water column of coasts, open oceans, and lakes). Evidence for important technological innovations such as the shell fishhook and the plank canoe, or “tomol,” are associated with this period and provided the means for greater diversity in food sources and likely had a profound impact on the prehistoric economic and social structure. Inland groups’ emphasis on hunting terrestrial mammals such as deer and rabbit continued during this time, as well as exploitation of freshwater shellfish and fish. Plant resources, particularly acorns and chia, became an increasingly important staple food among both inland and coastal groups during this period. Ground stone use continued to gradually shift during this time away from milling implements (i.e., manos and metates) and toward mortar and pestle use.

This period saw many advancements in tool technology, including innovations such the bow and arrow. Regional stylistic trends in chipped stone tools also emerged during this time, along with

craft specialization among some California groups. Exotic materials were more prolific in assemblages from this period and have been linked to the growing complexity and reliance of trade networks that connected California groups along the coast and throughout the inland areas. Ornamental goods, such as pendants, effigies, and beads produced from soapstone; and shells, including abalone, olivella, and Pismo clam; appeared in greater densities among assemblages during this time. Bone was also being used for tools and other ceremonial or status items including bone awls, drills, hair pins, and whistles.

Historic/Mission Period

The Santa Maria Refinery (SMR) property has been occupied by humans for at least 10,000 years. In historic times, the area was inhabited by the Obispeño Chumash, one of a group of linguistically related societies inhabiting the region between San Luis Obispo County (County) and northwestern Los Angeles County. Missionization devastated these populations, and European settlers dominated the area during the Mexican period (1821–1848) and the American period (post-1848).

The Project site and surrounding areas have been largely agricultural from the earliest settlements until the present, even as control passed from the Spanish to the Mexican government and then to the U.S. government. Very little infrastructure that could constitute historic cultural resources was ever constructed. One exception is the railroad main line, which reached the Guadalupe area in 1885 and was completed by the Southern Pacific Railroad in 1900 as the Coast Line between Los Angeles and San Francisco. Another exception would include the SMR itself (refer to Section 4.5.1.5, Previous Investigations).

4.5.1.2 Historical Development in the Project Region

Modest developments have occurred on the land since the Nipomo Rancho Land Grant (Rancho Nipomo) was given to William G. Dana. Mr. Dana was an “Alcalde,” an annually elected position. The Alcalde had a supportive role in a town and would act as presiding officer in the absence of a Corregidor or other municipal or administrative office. The Nipomo Rancho Land Grant, like all the lands gifted under the Land Grant system during the Mexican period, was focused on raising livestock on the lands, primarily cattle and sheep. The Rancho was revered as a hospitable stopover for travelers and evolved into being a designated exchange point on California’s first U.S. mail route in 1847. Notable guests to the Rancho included Captain John C. Fremont, Edwin Bryant, and General Henry W. Halleck (ERM 2022).

4.5.1.3 Project Site Historical Development and Aerial Photograph Review

Topographic maps from 1897 to the present were reviewed to examine the land use and built environment in the Project vicinity. The 1897 Arroyo Grande United States Geological Survey (USGS) 1:62,500 topographic map shows the Southern Pacific Railroad (Guadalupe Line) extending through the Project site, as well as a few roads but no structures. Railroad stops were located at Callender to the north and Bromela to the south of the Project site. Within the 1900 San Luis USGS 1:125,000 topographic map, the Project site also shows no structures. By 1942, a few structures were located just outside the Project boundary but none within it, and agricultural development appears to have begun northeast of the Project site. The 1952 Arroyo Grande USGS 1:62,500 topographic map shows small clusters of structures around Callender and Bromela and

4.5 Cultural and Tribal Cultural Resources

to the southeast of Callender, along the northeast boundary of the Project site. There were still no structures within the Project site in 1952 (ERM 2022).

Historic aerial imagery from 1956 shows that the oil refinery in the Project site had begun being built at some point in between the publication of the 1952 USGS map and the 1956 aerial imagery. The 1965 Oceano USGS map labels some of the features within the refinery, which include buildings, coke ovens, a conveyor belt, wastewater ponds, tanks, and a water tower. The 1965 USGS map and 1963 aerial photographs show that residential development was occurring northeast of the Project site, but only dirt roads and scattered industrial buildings such as sheds and well pads were located within the SMR property. South of the property were agricultural fields. This pattern has continued to the present. Periodic changes to the buildings and facilities at the SMR site are evident from aerial photographs between 1956 and 2018, but the overall layout and footprint of the site has not changed significantly (ERM 2022).

4.5.1.4 Literature and Records Search

ERM conducted a records search for the Project and reviewed results from previous record searches conducted in or near the Project site. Additional data included historical registries and databases of significant cultural resources, historical society archives and inventories, previously identified archaeological sites, architectural resources, and cultural resource studies. Historical registries were consulted to determine the presence of culturally significant resources within the Project site that may have been recently found eligible for listing in an historical register. An ERM archaeologist requested background research from the California Historic Resources Information System in 2022, within a 0.25-mile radius of the Project site.

USGS topographic quadrangles, historic maps, aerial photographs, and soil data were also reviewed to assess the portions of the Project site that may possess a higher potential for containing previously unidentified archaeological sites.

4.5.1.5 Previous Investigations

ERM completed a review of literature and archival data pertaining to the Project site and did not reveal any significant cultural resources that had been identified in previous studies. Previous studies within the vicinity of the Project site conducted by Stantec in 2012, Arcadis in 2013, and Applied Earthworks in 2014 were also reviewed. ERM requested background research from the California Historic Resources Information System in 2022, which revealed 15 reports within a 0.25-mile radius of the Project site. Of these, eight intersect the Project site. The 15 reports, including the four separate iterations of SL-02516, are detailed in Table 4.5.1, below.

Table 4.5.1 Previous Investigations Within 0.25 mile of the Project Site

Number	Year	Author	Title of Study
SL-00035*	1979	Spanne, L.	Archaeological Investigation of the Union Oil Company Santa Maria Refinery, San Luis Obispo, California. Archaeological Survey

Table 4.5.1 Previous Investigations Within 0.25 mile of the Project Site

Number	Year	Author	Title of Study
SL-00443	1981	Spanne, L.	Archaeological Evaluation of a Proposed Subsurface Pipeline Route, Nipomo Mesa, San Luis Obispo County, California
SL-00587*	1984	MacFarlane, H.	Addendum: Cultural Resources Survey, San Miguel Project, Onshore Pipeline and Facility Site, San Luis Obispo County, California
SL-00588*	1984	MacFarlane, H.	Addendum: Cultural Resources Investigation, San Miguel Project, Onshore Pipeline and Facility Site, San Luis Obispo County, California
SL-00589*	1985	MacFarlane, H.	Cultural Resources Element, Cities Service Oil and Gas Corporation, San Miguel Project Interconnect All American Pipeline Company Mainline, San Luis Obispo County, California
SL-02516*	1985	PHR Associates	Baseline Study, Technical Report, Historic Resources Study
SL-02516*	1985	PHR Associates	Revised Draft, Technical Report, Historical Resources Study
SL-02516*	1986	URS Corporation	San Miguel Project and Northern Santa Maria Basin Area Study, Final Environmental Impact Statement/Environmental Impact Report
SL-02516*	1986	Gibson, R.	Cultural Resources Survey and Assessment, South Nipomo Mesa Facility Site and Proposed Pipeline Corridors
SL-00679	1986	Waldron, W.	A-Archaeological Survey Report for Curve Improvement on State Highway Route 1 in San Luis Obispo County, Revised B-Negative Archaeological Survey Report C-First Addendum to: (A)original
SL-02516	1987	URS Corporation	Cities Service Oil and Gas Corporation and Celeron Pipeline Company of California San Miguel Project and Northern Santa Maria Basin Area Study, Additional Analysis, Second California Environmental Quality Act (CEQA) Revision to the Final EIS/EIR
SL-01001*	1988	Dills, C.	Letter Report: Archaeological Potential of Your Sheridan Road Lot, Nipomo
SL-01269	1989	Dills, C.	Letter Report: Archaeological Potential of Nipomo Mesa Property
SL-01830*	1990	Dills, C.	Archaeological potential of UNOCAL Refinery improvements
SL-01688	1990	Dills, C.	Archaeological Potential of Brackett Recycling Project on Nipomo Mesa (0691)
SL-01955*	1991	Dills, C.	Archaeological Potential of Sand Excavation Project at the Refinery
SL-02187	1991	Anastasio, R.L.	Archaeological Surface Survey, 2351 Willow Road, Arroyo Grande, San Luis Obispo County, CA Parcel 1, Lot 20, Division "A", Pomeroy's Resubdivision of Part of the Los Berros Tract APN 091-341-046
SL-05903	2005	Gibson, R.O.	Results of Archival Records Search and Phase One Surface Survey for the Sheridan Road Industrial Park Project, Nipomo Mesa, San Luis Obispo County, CA
SL-05833	2006	Lober, A.	Phase I Archaeological Inventory Survey a One Acre Parcel at 790 Calle Bendita, Oceano, San Luis Obispo County, California

*Previous studies that intersect with the Project site.

Source: California Historic Resources Information System 2022

Previously Identified Cultural Resources within 0.25 Mile of the Project Site

Archaeological Resources

No archaeological resources have been identified within the Project site or 100-foot buffer; two are within 0.25 mile and are discussed further below.

CA-SLO-1189H

Historic archaeological site CA-SLO-1189H is within the 0.25-mile buffer of the Project site (specific location withheld for confidentiality reasons). It is a historic site, possibly dating to pre-1920. It consists of a low-density collection of glass, bolts, and Pismo clam shells on a natural low knoll adjacent to a marshy area. No evidence of structures or features is associated with this site. While the site has not been evaluated for the California Register of Historical Resources (CRHR) or National Register of Historic Places (NRHP), it appears that it would offer little research value.

CA-SLO-1190

Prehistoric archaeological site CA-SLO-1190 was extensively studied during the previously proposed Phillips 66 Rail Spur Project. The resource was observed within one mile from the currently planned demolition and remediation work area. The resource consists of marine shell, lithic artifacts and debitage, fire-affected rock (i.e., hearth stones), and midden soil.

Historic/Built Environment Resources

The SMR is more than 50 years old, having been developed starting in the 1950s. Site development at that time included extensive grading and filling (to level the site) and excavation (for piping and foundations). The buildings and equipment at the SMR have been modified over the decades. A cultural resources assessment for the Phillips 66 Company Rail Spur Extension Project concluded that the SMR is not eligible for listing in the CRHR or NRHP (County 2015).

4.5.1.6 Native American Heritage Commission Consultation

A Sacred Lands File search was requested from the Native American Heritage Commission (NAHC) on April 13, 2023. The NAHC responded on April 28, 2023, indicating the results were “positive” but provided no further detail. The NAHC also included a list of local tribal contacts. The NAHC response was provided to the County for its use during Assembly Bill (AB) 52 consultation, which is discussed in further detail in the following sections.

In addition, during the Project Notice of Preparation (NOP) public review period, the County received a letter from the NAHC dated May 2, 2023, that stated that the NAHC recommends consultation with California Native American tribes that are traditionally and culturally affiliated with the geographic area of the proposed Project as early as possible in order to avoid inadvertent discoveries of Native American human remains and best protect tribal cultural resources.

4.5.1.7 Field Survey

The cultural resource field inventory of the Project site and surrounding areas within the existing SMR fence line was conducted by walking parallel transects using a survey interval of no more than 15 meters. The archaeologist surveyed the areas within the fence line that encompass the SMR

and included undisturbed and developed areas. Evidence for buried cultural deposits was sought through inspection of natural or artificial exposures of soil stratigraphy and in the spoils from rodent burrows. Representative photographs were taken to indicate the landscape setting.

Of the 218 acres of land within the Project site, approximately 2/3 of the area was sufficiently exposed to allow a surface survey. Although much of the working Refinery is surfaced in asphalt, asphalt slurry, base or concrete, ground visibility during the pedestrian reconnaissance was estimated at roughly 75 percent across the portions of the Project site that was subject to survey. Areas within the fence line consisted of coastal dune scrub and transitional zone habitat, and densely packed shrubs interspersed with scattered areas of grasses, forbs, and open sand. The developed areas consisted of paved roadways surrounding the SMR work areas filled with equipment, structures, stockpiles and accessways separated by open or vegetated patches with occasional modern debris or trash. Portions of the SMR site within the defined Project boundary were excluded from the survey due to existing hardscape cover or structures. This included the refinery infrastructure buildings, paved roads, and parking areas within the SMR. The coke stockpile area to the south covers or obscures nearly a quarter of the Project site. Open areas with low or no surface visibility within the fence line consisted of coastal dune scrub transitional zone habitat; these areas were not surveyed.

4.5.1.8 Historic Architectural Survey

Arcadis surveyed the SMR previously in 2012 and found that the location of the SMR was chosen due to its proximity to the Santa Maria Oil Fields, with railway and highway access. Construction began in 1953, although the San Luis Obispo Tax Assessor notes 1955 as the build date. Arcadis claimed major upgrades to the facility occurred in 1976 with the addition of an effluent treatment unit. Additional upgrades from 1976 to 1994 were completed to increase output and minimize environmental impacts. Arcadis estimated that less than 20 percent of the original facility remained in place. ERM visited the site on March 10 and 11, 2022. Some of the original structures, present in a 1956 historic aerial and 1965 USGS topographic map, are no longer extant. This includes six structures located southwest of the oil storage tanks. In addition, the administration buildings on the western end of the resource appear to feature minor additions built between 1976 and 1994. The cooling towers, oil storage tanks, sewage disposal ponds, and coke ovens appear to be in the same location as the 1956 aerial but feature material upgrades. Currently, the SMR consists of gabled structures with metal roof and siding. Arcadis noted that as of 2012, 80 percent of the facility was not original, and of the 89 permanent buildings within the facility, only 14 were greater than 50 years old. This is most likely attributed to the large expansion between 1979 and 1994. Upgrades to the original structures appear to be mostly internal or include material replacements, as their footprints have not been substantially altered (ERM 2022).

Arcadis recommended the resource is not eligible for listing under the California Register of Historical Resources (See Section 4.5.2.2 for information on historic resource eligibility) due to the expansions of and modifications to the facility, which are not historic (Arcadis 2013). Arcadis also noted the SMR's influence on the success and productivity of the communities associated with the Santa Maria Valley. While the construction of modern structures underscores the evolution and continuing use of the SMR, they have diminished the resource's integrity of setting and design. Furthermore, the material replacements and change in many of the original structure's

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function have compromised the resource's integrity of material and feeling. In addition, the SMR was not found to have any associations to significant people. Thus, the SMR was determined not eligible for the CRHR under Criteria 2 or 3 (ERM 2022). Although the SMR contributed to the success of some of the communities in the surrounding area, the SMR is one of many in the state and not a distinguished example of architectural history due to its alterations and is not expected to provide or have potential to provide important information pertaining to architectural prehistory or history. Therefore, the SMR is also not eligible under Criterion 1 or Criterion 4 (ERM 2022).

4.5.2 Regulatory Setting

4.5.2.1 Federal Regulations

No federal laws are anticipated to be applicable to the Project.

4.5.2.2 State Regulations

California Environmental Quality Act

CEQA requires a lead agency (in this case the County) to determine whether a project may have a significant effect on historical resources. Sections 21083.2 and 21084.1 of the Statutes of CEQA, Public Resources Code (PRC) Section 5024.1, and Section 15064.5 of the State CEQA Guidelines were used as the guidelines for the cultural resources study. PRC Section 5024.1 requires that any properties that can be expected to be directly or indirectly affected by a proposed project be evaluated for CRHR eligibility. The purpose of the CRHR is to maintain listings of the state's historical resources and to indicate what properties are to be protected, to the extent prudent and feasible, from material impairment and substantial adverse change. The term "historical resources" includes a resource listed in, or determined to be eligible for listing in, the CRHR; a resource included in a local register of historical resources; and any object, building, structure, site, area, place, record, or manuscript that a lead agency determines to be historically significant (State CEQA Guidelines Section 15064.5(a)). The criteria for listing properties in the CRHR were expressly developed in accordance with previously established criteria developed for listing in the NRHP.

According to PRC Section 5024.1(c)(1–4), a resource may be considered historically significant if it retains integrity and meets at least one of the following criteria. A property may be listed in the CRHR if the resource:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

Under CEQA, if an archaeological site is not a historical resource but meets the definition of a “unique archeological resource” as defined in PRC Section 21083.2, then it should be treated in accordance with the provisions of that section. A unique archaeological resource is defined as:

An archaeological artifact, object, or site about which it can be clearly demonstrated that, without merely adding to the current body of knowledge, there is a high probability that it meets any of the following criteria:

- 1. Contains information needed to answer important scientific research questions and that there is a demonstrable public interest in that information.*
- 2. Has a special and particular quality such as being the oldest of its type or the best available example of its type.*
- 3. Is directly associated with a scientifically recognized important prehistoric or historic event or person.*

Resources that neither meet any of these criteria for listing on the CRHR nor qualify as a unique archaeological resource under CEQA PRC Section 21083.2 are viewed as not significant. Under CEQA, “A nonunique archaeological resource need be given no further consideration, other than the simple recording of its existence by the lead agency if it so elects” (PRC Section 21083.2(h)).

Impacts that adversely alter the significance of a resource listed in or eligible for listing in the CRHR are considered a significant effect on the environment. Impacts to historical resources from the Project are thus considered significant if the Project physically destroys or damages all or part of a resource, changes the character of the use of the resource or physical feature within the setting of the resource that contributes to its significance, or introduces visual, atmospheric, or audible elements that diminish the integrity of significant features of the resource.

Assembly Bill 52

Signed into law in July 2015, AB 52 was enacted to guarantee that tribal cultural resources are protected to the largest extent possible throughout the development process. Tribal cultural resources are defined by PRC Section 21074 as follows:

- 1. Sites, features, places, cultural landscapes, sacred places, and objects with cultural value to a California Native American tribe that are either of the following:*
 - a. Included or determined to be eligible for inclusion in the California Register of Historical Resources.*
 - b. Included in a local register of historical resources as defined in subdivision (k) of Section 5020.1.*
- 2. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Section 5024.1. In applying the criteria set forth in subdivision (c) of Section 5024.1 for the purposes of this paragraph, the lead*

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agency shall consider the significance of the resource to a California Native American tribe.

3. *A cultural landscape that meets the criteria of subdivision (a) is a tribal cultural resource to the extent that the landscape is geographically defined in terms of the size and scope of the landscape.*
4. *A historical resource described in Section 21084.1, a unique archaeological resource as defined in subdivision (g) of Section 21083.2, or a “non-unique archaeological resource” as defined in subdivision (h) of Section 21083.2 may also be a tribal cultural resource if it conforms with the criteria of subdivision (a).*

If tribal cultural resources are identified within a project site, impacts must be avoided or mitigated to the extent feasible. AB 52 protects these resources by requiring that lead agencies seek tribal consultation prior to the release of any CEQA documentation. Lead agencies must notify tribes traditionally and culturally affiliated with a potential project area within 14 days of a development application being complete. Upon this initial notification, tribes would confirm consultation within 30 days of notification if consultation is deemed necessary. AB 52 also requires updates to the CEQA Guidelines Appendix G environmental checklist to include a section to formally analyze tribal cultural resources during environmental review.

California Native American Heritage Commission

PRC Section 5097.91 established the NAHC, whose duties include the inventory of places of religious or social significance to Native Americans and the identification of known graves and cemeteries of Native Americans on private lands. PRC Section 5097.98 specifies a protocol to be followed when the NAHC receives notification of a discovery of Native American human remains from a county coroner.

California Public Records Act

Sections 6254(r) and 6254.10 of the California Public Records Act, within the California Government Code, were enacted to protect archaeological sites from unauthorized excavation, looting, or vandalism. Section 6254(r) explicitly authorizes public agencies to withhold information from the public relating to “Native American graves, cemeteries, and sacred places maintained by the Native American Heritage Commission.” Section 6254.10 specifically exempts from disclosure requests for “records that relate to archaeological site information and reports, maintained by, or in the possession of the Department of Parks and Recreation, the State Historical Resources Commission, the State Lands Commission, the NAHC, another State agency, or a local agency, including the records that the agency obtains through a consultation process between a Native American tribe and a State or local agency.”

California Health and Safety Code Sections 7050 and 7052

Health and Safety Code (HSC) Section 7050.5 declares that, in the event of the discovery of human remains outside of a dedicated cemetery, all ground disturbance must cease, and the County Coroner must be notified. Section 7052 establishes a felony penalty for mutilating, disinterring, or otherwise disturbing human remains, except by relatives.

California Penal Code Section 622.5

California Penal Code Section 622.5 provides misdemeanor penalties for injuring or destroying objects of historic or archaeological interest located on public or private lands, but specifically excludes the landowner.

California Public Resources Code Section 5087.5

PRC Section 5097.5 defines as a misdemeanor the unauthorized disturbance or removal of archaeological, historical, or paleontological resources located on public lands.

4.5.2.3 Local Regulations

County of San Luis Obispo Coastal Zone Land Use Ordinance

The County has a vital interest in preserving its many older buildings, and prehistoric and historic sites, which not only represent the heritage of the County, but also help define the character of the region today. The Coastal Zone Land Use Ordinance (CZLUO) includes requirements for the protection of known cultural resources and implementation of mitigation measures to minimize potential impacts on known and unknown resources. In addition to County General Plan and ordinance requirements, Local Coastal Plan policies address protection of cultural resources consistent with the requirements of the California Coastal Act (1976).

4.5.3 Thresholds of Significance

CEQA guides lead agencies to protect and preserve resources with cultural, historic, scientific, or educational value. State CEQA Guidelines Section 15064.5 provides significance threshold criteria for determining a substantial adverse change to the significance of a cultural resource. In addition, Appendix G of the CEQA Guidelines provides additional guidance in determining a project's impact on cultural resources. The information provided in the CEQA guidelines has been used to develop the significance criteria for cultural resources.

The Project would be considered to have a significant effect on cultural resources if the Project would:

- a. Cause a substantial adverse change in the significance of a historical resource pursuant to Section 15064.5;
- b. Cause a substantial adverse change in the significance of an archaeological resource pursuant to Section 15064.5; or
- c. Disturb any human remains, including those interred outside of dedicated cemeteries.

The Project would be considered to have a significant effect on tribal cultural resources if the Project would:

- d. Cause a substantial adverse change in the significance of a tribal cultural resource, defined in Public Resources Code section 21074 as either a site, feature, place, cultural landscape that is

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geographically defined in terms of the size and scope of the landscape, sacred place, or object with cultural value to a California Native American tribe, and that is:

- i. Listed or eligible for listing in the California Register of Historical Resources, or in the local register of historical resources as defined in Public Resources Code Section 5020.1(k), or
- ii. A resource determined by the lead agency, in its discretion and supported by substantial evidence, to be significant pursuant to criteria set forth in subdivision (c) of Public Resources Code Section 5024.1, the lead agency shall consider the significance of the resources to a California Native American tribe.

Each of these thresholds is discussed under Section 4.5.5, Project-Specific Impacts and Mitigation Measures, below.

4.5.4 Impact Assessment Methodology

Information sources used to inform the impact analysis of this section included literature and data review, background research, and the Cultural Resources Study prepared for the Project (ERM 2022). The Cultural Resources Study was prepared in accordance with the California Office of Historic Preservation *Archaeological Resource Management Reports Guidelines, Guidelines for Archaeological Research Designs, Instructions for Recording Historical Resources, and The Secretary of the Interior's Standards and Guidelines for Archeology and Historic Preservation* [48 *Federal Register* 190 pp. 44716–44740]. The report included a records search from the California Historic Resources Information System (CHRIS) via the Central Coast Information Center (CCIC) as well as a review of historic registries and databases of significant cultural resources, historic society archives and inventories, and previously identified archaeological sites. USGS topographic quadrangles, historic maps, aerial photographs, and soil data were also reviewed to assess the portions of the Project site that may possess a higher potential for containing previously unidentified archaeological sites (ERM 2022). The Cultural Resources Study also included a cultural resources field inventory of the Project site, as described under Section 4.5.1.7 above.

Generally, intact cultural and historic deposits are considered significant. Severely disturbed or mixed deposits often are not considered significant but may have educational value. Human remains and associated goods are accorded special consideration, and even when fragmentary are considered significant (ERM 2022).

Impact analysis for tribal cultural resources was also informed by the County's consultation with California Native American tribes in accordance with AB 52 (ongoing as of February 2024). The concerns and recommendations of the local Native American tribes were essential to the development of the tribal cultural resources mitigation measures provided in the following section, Project-Specific Impacts and Mitigation Measures.

4.5.5 Project-Specific Impacts and Mitigation Measures

4.5.5.1 Cultural Resources

Impact #	Impact Description	Residual Impact
CT.1	Threshold a): Would the Project cause a substantial adverse change in the significance of a historical resource?	Class III

According to PRC Section 5024.1(c)(1–4), a resource may be considered historically significant if it retains integrity and meets at least one of the following criteria. A property may be listed in the CRHR if the resource:

1. Is associated with events that have made a significant contribution to the broad patterns of California's history and cultural heritage;
2. Is associated with the lives of persons important in our past;
3. Embodies the distinctive characteristics of a type, period, region or method of installation, or represents the work of an important creative individual, or possesses high artistic values; or
4. Has yielded, or may be likely to yield, information important in prehistory or history.

The SMR facility is more than 50 years old, having been developed starting in the 1950s. Site development at that time included extensive grading and filling (to level the site) and excavation (for piping and foundations). The buildings and equipment at the SMR have been modified over the decades. While the SMR has had notable influence on the success and productivity of the communities associated with the Santa Maria Valley, the SMR is not eligible for listing as a historic resource under the CRHR due to the fact that it is one of many in the state and is not a distinguished example due to the expansions of and modifications to the facility over the years, which are not historic. Although the construction of modern structures underscores the evolution and continuing use of the SMR, they have diminished the resource’s integrity of setting and design. Furthermore, the material replacements and functional changes in many of the original structures have compromised the resource’s integrity of material and feeling. In addition, the assessment did not reveal any associations with significant people or specific events (ERM 2022). Based on these findings, the SMR is not eligible for listing under Criterion 1, 2, 3, or 4, and impacts to historic resources would **be less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
CT.2	Threshold b): Would the Project result in a substantial adverse change in the significance of previously undiscovered archaeological resources?	Class II

A review of relevant literature and records at the Central Coast Information Center, historical registries, historic aerial photographs, and archival materials indicate that while eight previous studies conducted between 1979 and 1991 overlapped with the Project site, no previously recorded

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archaeological resources were located within the Project site. No new archaeological sites or finds were identified during recent field surveys of the visible portions of the Project site and immediately surrounding areas (ERM 2022).

However, proposed demolition and soil remediation activities associated with the Project could unearth previously unknown archaeological sites or resources that may have been moved or buried during the original construction, and that are not detectable from the ground surface. In areas that do not require soil remediation, only the aboveground features (except those identified in Section 2.4.7) would be removed and the surface hardscapes (concrete, asphalt, compacted base/gravel, or asphalt emulsion coating covering banks and berms) and belowground infrastructure would be left in place. There would be no earthmoving or site restoration in the areas not requiring remediation. The retention of hardscape and limited disturbance where no contamination is found would limit the potential for encountering previously unknown sites or artifacts. However, as the core drilling performed for soil testing would include all areas of the site, the core samples could provide evidence of previously unknown sites.

Mitigation measures CT.2-1, CT.2-2, CT.2-3, CT.2-4, and CT.2-5 have been identified to: 1) require retaining a qualified archaeologist (CT.2-1); 2) require retaining archaeological monitors (CT.2-2); require the development of a Cultural Resources Monitoring and Discovery Plan (CT.2-3); include procedures to be followed in the event of a unanticipated discovery (CT.2-4); and require the development and implementation of a Cultural Resources Worker Environmental Awareness Program (WEAP) training for Project workers (CT.2-5). With implementation of these measures, the Project would not result in significant impacts to archaeological resources.

Mitigation Measures

CT.2-1 *Retain County-qualified Project Archaeologist:* *At the time of application for County demolition or construction permits, a Project Archaeologist whose training and background conforms to the US Secretary of the Interior’s Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61) shall be retained by the Applicant or its designee to prepare and oversee a Cultural Resources Monitoring and Discovery Plan (CT.2-3), the Cultural Resources Environmental Awareness Program (CT.2-5) training, and manage all cultural resources monitoring, mitigation, and curation, if necessary, activities for the Project.*

A copy of the Project Archaeologist’s qualifications shall be provided to the County of San Luis Obispo Planning and Building Department (County) for review and approval. The qualifications of the Project Archaeologist shall be appropriate to the needs of the Project and demonstrate prior experience on the Central Coast of California. The Project Archaeologist’s qualifications shall be provided by the County to the Tribes designated point of contact with whom the County conducted Assembly Bill (AB) 52 consultation for the Project (hereinafter referred to as “appropriate consulting Tribes”) for review and comment prior to approval by the County.

Submittal Timing: *At the time of application for County demolition and construction permits. **Approval Trigger:** Submittal of County permit applications. **Responsible Party:** The Applicant or designee. **What is required:** Submittal of proposed Project*

Archaeologist qualifications. To whom it is submitted and approved by: County Department of Planning and Building.

CT.2-2 Retain County-qualified Project Archaeological Monitors: *Prior to application for County demolition or construction permits, Project Archaeological Monitors shall be retained by the Applicant or its designee to assist in the monitoring, mitigation, and curation activities for the Project. The Monitors shall have the following minimum qualifications:*

- 1. A BS or BA degree in anthropology, archaeology, historic archaeology, or a related field and two years' experience monitoring in California including demonstrated experience with coastal cultural resources. Preference will be given to those with demonstrated experience along the coast of Central California; or*
- 2. An AS or AA degree in anthropology, archaeology, historic archaeology, or a related field and four years' experience monitoring in California including demonstrated experience with coastal cultural resources. Preference will be given to those with demonstrated experience along the coast of Central California; or*
- 3. A BS or BA degree and enrollment in graduate level classes pursuing a Master's degree in the fields of anthropology, archaeology, historic archaeology, or a related field and two years of monitoring experience in California including demonstrated experience with coastal cultural resources. Preference will be given to those with demonstrated experience along the coast of Central California. If the Monitor's undergraduate degree is not in anthropology, archaeology, or a related field, two graduate classes in anthropology or archaeology must have been completed prior to the Monitor working on site.*

A Monitor with a degree in historic archaeology must also have completed coursework in anthropology or archaeology and have demonstrated experience monitoring for California prehistoric archaeological resources.

A copy of each Monitor's qualifications shall be provided to the County for review and approval. Each Monitor's qualifications shall be provided by the County to the appropriate consulting Tribes for review and comment prior to approval by the County.

Submittal Timing: *Prior to the application for County demolition and construction permits. Approval Trigger:* Issuance of County permit. **Responsible Party:** *The Applicant or designee. What is required:* Archaeological Monitor Qualifications. **To whom it is submitted and approved by:** County Department of Planning and Building.

CT.2-3 Develop a Cultural Resources Monitoring and Discovery Plan: *At the time of application for County demolition and construction permits, the Project Archaeologist shall develop and submit a Cultural Resources Monitoring and Discovery Plan (CRMDP) to the County for review and approval. No ground disturbing activities can occur until the CRMDP is approved by the County. A draft of the CRMDP shall be provided by the County to the appropriate consulting Tribes and an independent third-*

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party County qualified archaeologist for a 45-day review and comment period. No ground disturbance can occur before approval of any construction-related permits by the County.

At a minimum, the CRMDP shall include the following:

- 1. An introduction outlining the project description, purpose for monitoring, summary of resources studies or description of known resources, anticipated construction schedule, anticipated impacts to cultural resources, if discovered, curation, and treatment options. Permanent curation of cultural resources will not take place unless approved in writing by the appropriate consulting Tribes.*
- 2. A description of the monitoring personnel involved with the Project (Project Archaeologist, Archaeological Monitors, and Chumash Tribal Monitors (CT.4-1) and their responsibilities, which shall include but are not limited to:*
 - a. A list of personnel involved in the monitoring activities and their availability;*
 - b. A description of how the monitoring shall occur;*
 - c. A description of how the monitoring schedule will be developed and implemented given that different areas of ground disturbance may occur simultaneously;*
 - d. A description of what resources could be encountered and where they could be encountered; and*
 - e. A description of monitoring reporting procedures.*
- 3. A description of the Cultural Resources Worker Environmental Awareness Program training (CT.2-5) and when and how that will take place.*
- 4. Definition and description of authorities, protocols, and procedures for halting and/or pausing work in order to record, evaluate, and identify any necessary treatment for any cultural resources encountered. This shall include protocols for ensuring all treatment or recovery of cultural resources is completed prior to work resuming in the area of the find.*
- 5. Information that the Project Archaeologist, Archaeological Monitor(s), and the Chumash Tribal Monitor(s) shall have the authority to halt ground disturbing activities in the event cultural resources are encountered as a result of that ground disturbing activity.*
- 6. Details regarding the immediate cessation of ground disturbing activities within a minimum of 100 feet of the discovery of any cultural resources or human remains and measures to delineate the area with clearly visible lath, flagging tape, or other marking. The County and the appropriate consulting Tribes shall be consulted on a determination of significance.*

7. *Notification procedures of unanticipated discoveries of cultural resources including human remains (CT.2-4). The County and appropriate consulting Tribes shall be notified of a discovery as soon as possible but no later than 24 hours of the find. If the discovery occurs on a Friday, the County can be notified the following Monday morning.*
8. *Specific in-field procedures for collecting, handling, and categorizing cultural resources, including human remains, encountered and a detailed process for evaluating unanticipated discoveries.*
9. *Development of a preliminary treatment plan which shall, at a minimum, include:*
 - a. *A description of the treatment options for each type of resource which include, in order of priority: 1) preservation in place, where feasible; 2) the development of a treatment plan, archaeological testing, or data recovery; 3) reburial as close as possible to the location where all artifacts, remains, and/or funerary objects were found; and 4) reburial near the Project site. Any Chumash cultural materials disinterred as a result of this Project shall be curated or reinterred upon determination by the Most Likely Descendant (MLD) after notification by the Project Archaeologist to the appropriate consulting Tribes. Reinternment shall be conducted on a weekly basis or as deemed appropriate by the MLD after notification by the Project Archaeologist to the appropriate consulting Tribes.*
 - b. *The location of a secured, on-site storage area for recovered artifacts and human remains shall be identified before any ground disturbing activities occur. The location shall be determined in consultation with the appropriate consulting Tribes.*
 - c. *In the event of a human remains discovery, the County and appropriate consulting Tribes shall be notified by the Applicant or Project Archaeologist no later than 24 hours of the find along with one of the proposed treatment options outlined above, by the MLD, in consultation with the Applicant. The County and appropriate consulting Tribes shall be given 72 hours from the time of notification to provide comments on the proposed treatment option to the MLD.*
 - d. *In the event human remains are discovered, a Project Osteologist shall be retained by the Applicant or its designee to assist in the identification of any human remains. The Project Osteologist shall have the following minimum qualifications:*
 1. *A graduate degree in archaeology, forensic anthropology, or related discipline, with four years' experience working with archaeological and Tribal Cultural resources in California;*
 2. *If an Osteologist with four years' experience is not available, a candidate with no less than two years' experience may be considered; and*

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3. *A copy of the Project Osteologist's qualifications shall be provided to the County for review and approval. The Project Osteologist's qualifications shall be provided by the County to appropriate consulting Tribes for review and comment prior to approval by the County.*

- e. *For the location near the Project site for reburial of human remains and artifacts, the location must be surveyed prior to its use, to determine if the location may be used (i.e., there are no biological and/or cultural/tribal resources sensitivities). In addition, the location must be limited to the reburial of human remains and artifacts from the Phillips 66 SMR site. Lastly, the location, if needed, must be put under a deed restriction, protecting any reburials of human remains and artifacts in perpetuity.*

- f. *A commitment from the Applicant to pay all treatment costs for artifacts, funerary objects, and remains discovered, from discovery to reinternment, and for related documentation produced, if any, during cultural resources investigations conducted for the Project.*

10. *Procedures for the Project Archaeologist, the Applicant, or its contractors to provide immediate notification to the County of San Luis Obispo Planning and Building Department and the appropriate consulting Tribes and immediately cease any earthwork conducted outside the limits of the approved grading plan or land use permit as these activities require prior approval by the County.*

11. *Outline of reporting procedures, including monthly summary reports and an annual archaeological monitoring report to be submitted by the Project Archaeologist to the County of San Luis Obispo Planning and Building Department and appropriate consulting Tribes for review throughout the duration of Project disturbance activities. The County shall provide copies of the plan to the appropriate consulting Tribes for review. Formal technical reports are required for any archaeological testing or data recovery conducted. Annual archaeological monitoring reports and any technical testing or data recovery reports shall be submitted to the County and Central Coast Information Center. Upon completion of all monitoring or treatment activities at Project completion, the Project Archaeologist shall submit a final report under confidentiality to the County summarizing all monitoring/treatment activities. The County shall provide copies of the confidential final report to the appropriate consulting Tribes.*

Phillips 66 or its designee(s) will consult with the County and appropriate consulting Tribes to develop measures for long term management of any discovered resources, including any routine maintenance that may need to occur within discovered culturally sensitive areas that retain resource integrity, including tribal cultural integrity, and including archaeological material, Traditional Cultural Properties, and cultural landscapes, in accordance with state and federal guidance including National Register Bulletin 30 (Guidelines for Evaluating and Documenting Rural Historic Landscapes), Bulletin 36 (Guidelines for Evaluating

and Registering Archaeological Properties), and Bulletin 38 (Guidelines for Evaluating and Documenting Traditional Cultural Properties.

Submittal Timing: *At the time of application for County demolition and construction permits. Approval Trigger:* Issuance of permit. **Responsible Party:** *The Applicant or designee. What is required:* Submittal of CRMDP. **To whom it is submitted and approved by:** *County Department of Planning and Building.*

CT.2-4 **Inadvertent Discoveries:** *In the event that Tribal Cultural Resources, archaeological, or cultural resources are exposed during demolition or remediation, all ground disturbing activity occurring within a minimum of 100 feet of the find shall immediately stop until the Project Archaeologist, Archaeological Monitor, and Chumash Tribal Monitor(s) can evaluate the significance of the find and determine, in consultation with the County of San Luis Obispo Planning and Building Department, whether additional study is warranted, including any efforts necessary to delineate the resource boundary.*

The area of the discovery shall be delineated with clearly visible lath, flagging tape, or other marking and the County notified within 24 hours of a discovery. If the discovery occurs on a Friday, the County can be notified the following Monday morning.

Depending upon the significance of the find, the Project Archaeologist or Archaeological Monitor and Chumash Tribal Monitor may record the find and allow work to continue. The County shall be consulted on a determination of significance. If the discovery proves significant under the California Environmental Quality Act (CEQA), every effort will be made to preserve the resource in place, if possible. If avoidance/preservation in place is not feasible, specific resource documentation or recovery shall be implemented in accordance with the treatment options in the CRMDP (CT.2-3), including, but not limited to, the preparation of a treatment plan, archaeological testing, or data recovery.

During the assessment and potential treatment time, construction work may proceed in other areas outside the minimum 100-foot buffer consistent with CT.2-3. Work at the discovery location cannot resume until all necessary investigation and evaluation under CEQA, Tribal consultation, and/or the procedures under PRC Section 5097.98 and Health and Safety Code Section 7050.5 have been satisfied and released by the County. This requirement shall be reproduced on all grading and construction plans for the Project.

Submittal Timing: *During Project demolition and remediation activities. Approval Trigger:* Notification and consultation with County Planning and Building staff at time of discovery. Issuance of permit. **Responsible Party:** *The Applicant or designee. What is required:* Construction Note on Plans. **To whom it is submitted and approved by:** *County Department of Planning and Building.*

CT.2-5 **Cultural Resources Worker Environmental Awareness Program:** *Prior to and for the duration of any ground disturbance, the Applicant or its designee shall provide*

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Cultural Resources Worker Environmental Awareness Program (WEAP) training to all new workers prior to any new worker beginning work on the Phillips 66 SMR site.

The training program shall be developed by the Project Archaeologist with input from appropriate consulting Tribes and may be presented in the form of a video. A draft of the training program shall be provided to the County of San Luis Obispo Planning and Building Department for review and approval no fewer than 135 days prior to any Project-related ground disturbance at the site. A draft of the training program (i.e., video and written materials shall be provided by the County to the appropriate consulting Tribes for a 45-day review and comment period, prior to approval by the County. The training may be conducted concurrent with other environmental training (e.g., biological resources awareness training, safety training, etc.).

The training shall include, at a minimum:

- 1. An overview by a tribal member from the appropriate consulting Tribes;*
- 2. A description of the types of Tribal Cultural Resources, archaeological, and cultural resources that may be encountered during demolition and remediation activities;*
- 3. Steps to follow in the event of an unanticipated discovery;*
- 4. Contact information for the County of San Luis Obispo Planning and Building Department, Project Archaeologist, Archaeological and Chumash Tribal Monitors, and appropriate consulting Tribes;*
- 5. Samples or visual of artifacts that might be found on the site;*
- 6. Information that the Project Archaeologist, Archaeological Monitors, and Chumash Tribal Monitors shall have the authority to halt ground disturbing activities in the event previously unknown, or suspected cultural resources are encountered as a result of that ground disturbing activity;*
- 7. Instructions that workers are to halt work on their own within 100-feet of a potential cultural resource discovery, shall contact their supervisor and the Project Archaeologist or Archaeological Monitor, and that redirection of work shall be determined by the Project Archaeologist and Chumash Tribal Monitors;*
- 8. Emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and discuss appropriate behaviors and responsive actions, consistent with Native American tribal values;*
- 9. An information brochure that identifies reporting procedures in the event of a discovery;*

10. An acknowledgement form signed by each worker indicating that the worker has received the training and will abide by the Project requirements; and

11. A sticker that shall be placed on hard hats indicating that environmental training has been completed.

The Applicant or its designee shall provide to the County, within a Project Monthly Compliance Report (CT.4-2), the WEAP training acknowledgement forms for persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.

Submittal Timing: No more than 135 days prior to Project-related ground disturbance. **Approval Trigger:** Prior to issuance of permits or ground disturbance. **Responsible Party:** The Applicant or designee. **What is required:** Submittal of WEAP. **To whom it is submitted and approved by:** County Department of Planning and Building.

Residual Impacts

Upon implementation of the measures identified above, impacts associated with archaeological resources would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
CT.3	Threshold c): Would the Project result in disturbance and destruction of unknown human remains?	Class II

As described under impact CT.2, no known previously recorded archaeological resources are located within the Project site, and the pedestrian field survey did not indicate the presence of any known burial sites within the Project site. Based on the extent of future ground disturbance in areas where soil remediation is required and the known archaeological sensitivity in the Project vicinity, there is some potential for inadvertent discovery of previously unidentified human remains. If human remains were encountered during demolition or remediation activities, the potential for disturbance of these remains would be potentially significant. However, mitigation measures CT.2-1, CT.2-2, CT.2-3, CT.2-4, and CT.2-5 have been identified to: 1) require retaining a qualified archaeologist (CT.2-1); 2) require retaining archaeological monitors (CT.2-2); the development of a Cultural Resources Monitoring and Discovery Plan (CT.2-3); procedures to be followed in the event of a unanticipated discovery (CT.2-4); and the development and implementation of a Cultural Resources WEAP training for Project workers (CT.2-5). In addition, mitigation measure CT.3-1 has been identified to specify the required protocol to be implemented in the event human remains are found during Project activities in accordance with applicable state and local regulations. Implementation of these mitigation measures would ensure avoidance and minimization of impacts related to inadvertent discovery of unidentified human remains during future Project-related demolition and remediation activities.

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Further, the Project would be required to comply with HSC Section 7050.5 and County LUO Section 22.10.040. These policies identify the required protocol to be implemented in the event of inadvertent discovery of human remains, including the cessation of work within the vicinity of the discovery, identification of human remains by the County Coroner, and if the remains are identified to be of Native American descent, contact with the NAHC. The NAHC would determine a MLD to complete an inspection of the site within 48 hours of notification and provide recommendations. The Project would also be required to comply with PRC Sections 5097.94, 5097.98, and 5097.99 for further protection of human remains.

Based on implementation of mitigation measures and required compliance with state and local policies related to inadvertent discovery of human remains, the Project would not result in significant adverse disturbance to human remains.

Mitigation Measures

Implement mitigation measures CT.2-1 through CT.2-5.

CT.3-1 *Discovery of Human Remains:* *In the event human remains are discovered during the Project all Project activity shall immediately cease with a minimum of 100 feet of the discovery site, and the area delineated with clearly visible lath, flagging tape, or other marking. The County and appropriate consulting Tribes must be notified within 24 hours of the find as outlined in the CRMDP (CT.2-3). The Applicant or its designee shall comply with Section 15064.5 (e) (1) of the State CEQA Guidelines, and the procedures described in Section 7050.5 of the California Health and Safety Code. The Project Archaeologist and Project Osteologist with a Chumash Tribal Monitor shall inspect the remains and confirm that they are human, and if so, shall immediately notify the County Coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. Treatment, handling, and storage of remains will follow the protocols outlined in the CRMDP (CT.2-3).*

If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission (NAHC). As provided in PRC Section 5097.98, the NAHC will notify the person or persons it believes to be the Most Likely Descendent (MLD) from the deceased Native American. The MLD must follow the procedures and preliminary treatment options in the CRMDP and make a recommendation to the County and appropriate consulting Tribes for means of treating, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98 and as outlined in CT.2-3, above. If more than one MLD is designated for the Project by the NAHC, each MLD shall be consulted regarding the handling of the human remains, and any associated grave goods and/or burial related soils. Burial associated grave goods and soil shall be reinterred with the associated burial. This measure shall be included in the CRDMP.

Submittal Timing: *N/A. **Approval Trigger:** N/A. **Responsible Party:** The Applicant or designee. **What is required:** Notification of County and consulting Native American Tribes. **To whom it is submitted and approved by:** N/A.*

Residual Impacts

Upon implementation of the measures identified above, impacts associated with disturbance of human remains would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
CT.4	Threshold d): Would the Project cause a substantial adverse change in the significance of previously undiscovered tribal cultural resources?	Class II

The County, as the CEQA Lead Agency, provided notification to Native American tribes affiliated with the Project site pursuant to AB 52. On October 6, 2022, an initial AB 52 Project Referral describing the Project and information regarding consultation was sent to the County’s referral consultation list of local tribes:

- Northern Chumash Tribal Council (NCTC) – Violet Sage Walker, Chairperson;
- Salinan Tribe of Monterey & San Luis Obispo Counties (STMSLO), Patti Dunton, Tribal Administrator;
- Xolon Salinan Tribe – Donna Haro; and
- yak tityu tityu yak tilhini Northern Chumash Tribe (ytt) – Mona Tucker, Chairperson.

The County received affirmative responses in October 2022 for consultation from NCTC, STMSLO, and ytt. The Xolon Salinan Tribe did not respond; their territory is north of Morro Bay. Efforts to coordinate meetings were delayed as the Project application had not yet been accepted for processing. On February 27, 2023, the County sent an email notification to these four Tribes with additional information on the Project, including the NOP for EIR scoping meetings, and requested consultation coordination.

The NAHC was contacted in late April 2023 for a records search of Sacred Lands Files (SLF) for the Project. The search results were positive, and NAHC provided an updated list of Tribes affiliated with the Project area. On May 30, 2023, the County sent email and certified USPS mailed letter to the following Tribes, requesting recipients to contact the County to coordinate a consultation as part of EIR scoping:

- Barbareño/Ventureño Band of Mission Indians, Annette Ayala, CRM Committee Chair;
- Barbareño/Ventureño Band of Mission Indians. Dayna Barrios, Chairperson;
- Chumash Council of Bakersfield, Julio Quair, Chairperson;
- Coastal Band of the Chumash Nation, Mia Lopez, Chairperson;
- Coastal Band of the Chumash Nation, Gabe Frausto, Vice Chair;
- Northern Chumash Tribal Council, Violet Sage-Walker, Chairperson;
- Salinan Tribe of Monterey & San Luis Obispo Counties, Patti Dunton, Tribal Administrator;
- Santa Ynez Band of Chumash Indians, Kenneth Kahn, Chairperson; and
- yak tityu tityu yak tilhini Northern Chumash Tribe, Mona Tucker, Chairperson.

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During the public scoping period as specified in the Project NOP (May 4 – June 5, 2023), scoping comments were received from Patti Dunton of the Salinan Tribe of Monterey and SLO Counties via email on May 24, 2023, stating that the Salinan Tribe (STMSLO) had concerns that cultural resources may be impacted by the Project and requesting that all ground disturbing activities for the Project be monitored by a cultural resource specialist from their Tribe. In addition, on May 12, 2023, the County received a scoping comment letter from Sam Cohen of the Santa Ynez Band of Chumash Indians (SYBC) requesting AB 52 consultation.

Site visits to the Phillips 66 SMR were conducted and consultations were held with representatives from the ytt, NCTC, and SYBC. The Salinan Tribe did not respond to a site visit invitation or further consultation requests. The ytt, NCTC, and SYBC expressed concern that there may be undocumented resources or cultural artifacts that underlie the facility structures. The Tribes also stated that the site is considered culturally important to the Chumash tribes as the Central Coast dune complex was utilized for thousands of years. The Refinery was constructed before CEQA was enacted, such that any resources encountered at that time were not required to be reported. Soil remediation activities may disturb soils from the initial construction that may contain unknown resources. The Tribes also requested that the mitigation measures from a recent coastal project AB 52 consultation which began in 2021, be used as a starting point for the SMR Project consultations.

Project-related demolition and remediation activities have the potential to directly impact previously undiscovered tribal cultural resources if they are present within the Project site. Mitigation measures CT.2-1, CT.2-2, CT.2-3, CT.2-4, and CT.2-5 have been identified to: 1) require retaining a qualified archaeologist (CT.2-1); 2) require retaining archaeological monitors (CT.2-2); the development of a Cultural Resources Monitoring and Discovery Plan (CT.2-3); procedures to be followed in the event of a unanticipated discovery (CT.2-4); and the development and implementation of a Cultural Resources WEAP training for Project workers (CT.2-5). In addition, mitigation measure CT.3-1 has been identified to specify the required protocol to be implemented in the event human remains are found during Project activities in accordance with applicable state and local regulations. These mitigation measures would help reduce potential impacts to any tribal cultural resources discovered during Project demolition and remediation activities.

Based on consultation with the Tribes, mitigation measures CT.4-1 and CT.4-2 have also been included to ensure protection of tribal cultural resources in accordance with AB 52 consultations. Implementation of the identified mitigation measures would ensure avoidance and minimization of impacts to previously undiscovered tribal cultural resources. Based on the implementation of identified mitigation measures and required compliance with state and local regulations, the Project would not result in substantial adverse change in the significance of undiscovered tribal cultural resources within the Project site. Therefore, impacts would be less than significant with mitigation.

Mitigation Measures

Implement mitigation measures CT.2-1 through CT.2-5 and CT.3-1.

CT.4-1 ***Retain Chumash Tribal Monitors:*** *At the time of application for any County Grading or Construction Permit, Chumash Tribal Monitors from appropriate consulting Tribes*

shall be retained by the Applicant or its designee to assist in the monitoring, mitigation, and curation activities for the Project.

Submittal Timing: *At the time of permit application; prior to any permit issuance.*
Approval Trigger: *Issuance of permit.* **Responsible Party:** *The Applicant or designee.*
What is required: *Identification of retained Chumash Tribal Monitors **To whom it is submitted and approved by:** County Department of Planning and Building.*

CT.4-2 **Archaeological and Tribal Monitoring:** *During and throughout all Project-related activities, including soil testing, Archaeological Monitors and Chumash Tribal Monitors shall conduct full-time on-site monitoring during all ground disturbing activities, including those occurring in previously disturbed soil and soil sampling associated with remediation activities. Monitoring may not be required during hydroseeding or paving activities, unless an exception is demonstrated as warranted by the Project Archaeologist and approved by the County of San Luis Obispo Planning and Building Department, after consultation with the appropriate consulting Tribes.*

Where multiple areas of work are concurrently permitted for grading or disturbance, or where multiple pieces of equipment are operating within the same work area, there shall be multiple monitors, at least one for each area, and a sufficient number of Archaeological Monitors and Chumash Tribal Monitors shall be on site to ensure all concurrent activities are monitored. The Chumash Tribal Monitors may be rotated to ensure that all appropriate consulting Tribes can observe the areas of work. The Project Archaeologist shall be responsible for creating monitoring schedules for the Archaeological Monitors and Chumash Tribal Monitors, and specifying the locations where they will monitor.

The Archaeological Monitors shall work under the direction of the Project Archaeologist and shall submit daily logs detailing the types of activities, soils observed, and any discoveries to the Project Archaeologist. The daily log shall also identify the nature of any resource found and the method of mitigation treatment. The Project Archaeologist shall prepare a weekly summary report, with all daily monitoring logs appended, on the progress or status of cultural resources related activities which shall be provided to the appropriate consulting Tribes on a weekly basis. The weekly summary reports shall be provided to the County in the Project Monthly Compliance Report.

Cultural resources monitoring activities are the responsibility of the Project Archaeologist. Any interference with monitoring activities, removal of a monitor from duties assigned by the Project Archaeologist, or direction to a monitor to relocate or cease monitoring activities by anyone other than the Project Archaeologist shall be considered a non-compliance event. In the event a Chumash Tribal Monitor is dismissed from monitoring and the County determines this to be in error, the Chumash Tribal Monitor will be compensated for time lost by the Applicant. Any disagreements between the Project Archaeologist and Chumash Tribal Monitors shall be brought to the County's attention for resolution.

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The Project Archaeologist or appropriate consulting Tribes shall notify the Applicant and the County by telephone or email, of any incidents of non-compliance with any cultural resource mitigation measure or condition within 24 hours of becoming aware of the situation. The Project Archaeologist and appropriate consulting Tribes shall also recommend corrective action(s) to resolve the problem or achieve compliance with the mitigation measure or Project condition.

In the event of a non-compliance issue, the Project Archaeologist shall write a report within two weeks after resolution of the issue that describes the issue, resolution of the issue, and the effectiveness of resolution measures. The report shall be provided in the next Monthly Compliance Report, which is submitted to the County. The Applicant or its designee shall also provide a copy of the non-compliance report to the consulting Tribe when issued to the County.

Submittal Timing: *During and throughout all Project-related activities; prior to any permit issuance. Approval Trigger:* Issuance of permit. **Responsible Party:** *The Applicant or designee. What is required:* Weekly summary reports. **To whom it is submitted and approved by:** *County Department of Planning and Building.*

Residual Impacts

Upon implementation of the measures identified above, impacts associated with impacts to tribal cultural resources would be **less than significant with mitigation (Class II)**.

4.5.6 Mitigation Measure Impacts to Other Issue Areas

Implementation of mitigation measures would reduce potential impacts associated with discovering and disturbing previously undiscovered cultural resources, human remains, and tribal cultural resources. These measures generally include awareness training of all Project workers, retaining qualified professionals to monitor ground disturbing Project activities, and protocol for avoiding impacts to any sensitive cultural resources if discovered. Additional staff required by these measures include the Project Archaeologist, Project Osteologist (if required), Archaeological Monitors, and Tribal Monitors. This would result in a minor increase in vehicle trips to and from the Project site during phases of the Project that involve ground disturbance, which would result in a minor increase in overall Project vehicle miles traveled (VMT), air pollutant and greenhouse gas emissions, and noise. Based on the very limited number of additional staff required to implement these measures, all secondary impacts associated with the increase in on-site staff would be less than significant.

4.5.7 Cumulative Impacts

Implementation of the Project could contribute to the cumulative degradation of significant cultural resources in the County. The destruction of cultural resources can have the potential for significant cumulative impacts that are inherently important to the descendants of native peoples and make the study of prehistoric and historic life unavailable for study by scientists. Given the prevalence of cultural resources within and in the immediate vicinity of the Project site, and the number of construction activities that involve disturbance of archaeologically sensitive areas that

are not regulated, it is likely that significant prehistoric and historic resources are often not identified and are permanently lost. For the Project, impacts to previously undiscovered cultural resources could occur, and mitigation measures have been identified to reduce these potential impacts. Based on implementation of recommended mitigation measures as requested by the consulting Tribes, potential cumulative impacts resulting from the Project would be less than significant with mitigation.

4.5.8 References

Arcadis. 2013. Cultural Resources Assessment of the Phillips 66 Santa Maria Refinery. August.

County of San Luis Obispo (County). 2015. San Luis Obispo County, Phillips 66 Company Rail Spur Extension And Crude Unloading Project Final Environmental Impact Report And Vertical Coastal Access Project Assessment, December 2015, SCH # 2013071028.

ERM-West, Inc. (ERM). 2022. Cultural Resources Study; Santa Maria Refinery Demolition and Remediation Project, Arroyo Grande, San Luis Obispo County, California.

4.6 Energy

This section discusses the potential impacts associated with energy use associated with the Project. Utilities and public services are addressed in Section 4.13, Public Services, Utilities and Service Systems. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition of aboveground infrastructure and remediation of the site, followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

4.6.1 Environmental Setting

The Phillips 66 Santa Maria Refinery (SMR) historically utilizes electricity and natural gas as energy sources to operate the facility. Pacific Gas and Electric Company (PG&E) currently provides electricity to the Project site that is not otherwise produced by the power-generating unit at the SMR. PG&E operates a local planning office at 4325 Higuera Street in the City of San Luis Obispo and operates the San Luis Obispo Substation on the corner of Orcutt Road and Johnson Avenue, approximately 19 miles north of the Project site.

PG&E generates electricity from the following sources: (1) PG&E-owned hydropower, gas-fired steam, and nuclear generators; (2) independent generators; and (3) out-of-state generators. A network of high-voltage transmission lines carries electricity generated from the power plants to substations. Substations use transformers to decrease the voltage of electricity to connect with the distribution system. Electricity is supplied to the SMR through an existing substation and power lines located on the site.

In order to provide information on the environmental setting and regional electrical use, electrical use within the County of San Luis Obispo (County) is shown in Table 4.6.1.

Table 4.6.1 County of San Luis Obispo Electricity Consumption

Land Use	County-wide Electricity Consumption (GWh)		
	2020	2021	2022
Non-Residential	990	1,012	1,036
Residential	682	670	694
Total	1,671	1,682	1,729

Note: GWh = gigawatt-hour

Source: California Consumption Data Management System (CCDMS) 2024a

Generally, commercial, industrial, and residential land uses consumed the majority of the kilowatt-hours of electricity in the County.

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In order to provide information on the environmental setting and regional natural gas use, Table 4.6.2 presents the natural gas used in the County historically. An existing Southern California Gas Company (SoCalGas) natural gas pipeline supplies natural gas to the SMR for operations.

Table 4.6.2 County of San Luis Obispo Natural Gas Consumption

Land Use	County-wide Gas Consumption (millions of therms/mmscf)		
	2020	2021	2022
Non-Residential	42/4200	41/4100	50/5000
Residential	39/3900	38/3800	38/3800
Total	81/8100	79/7900	88/8800

Notes: 1 therm = 100 standard cubic foot (scf), mmscf = million scf

Source: CCDMS 2024b

The SMR also relies on diesel fuel as part of operations. In order to provide information as background on the environmental setting and regional fuel use, per data gathered by the California Energy Commission (CEC-A15 results, CEC 2023), the County is estimated to have about 106 gasoline and diesel dispensing stations annually selling about 125 million gallons of gasoline and an estimated 22 million gallons of diesel fuel in 2021.

4.6.1.1 Santa Maria Refinery Historical Energy Use

The SMR historically has used energy for a number of different processes, including heat and steam generation. The SMR also utilizes boilers which burn gas to produce steam and electricity, thereby reducing the amount of electricity consumed from the grid. Gas produced from the processing of crude oil captured and utilized as a fuel is called internal fuel gas. Gas purchased from the utility is called natural gas. Reports to the San Luis Obispo County Air Pollution Control District (SLOCAPCD) indicate historical use of gas at the SMR, with the majority of gas consumed being internal fuel gas. Historical energy use by the SMR for gas and diesel is shown in Table 4.6.3. Diesel fuel is used on site at the SMR for pumps and fire water pumps and is delivered to the site.

Diesel fuel is also historically used off site in trucks and trains that serviced the SMR. No specific records exist for these fuel use rates as fuel is purchased at a range of locations, but estimates based on truck trips, estimated mileage and fuel use rates, and rail trips distances and fuel use rates indicate that trucks utilized about 524,000 gallons per year of diesel fuel and trains utilized about 74,000 gallons per year of diesel fuel. See Appendix C for the calculations.

Electricity utilized by the SMR is historically supplied from off site by PG&E and also generated on site through excess heat from the boilers. The amount of electricity used annually has averaged about 41,269 MWh over the past five years, with an average of about 12 percent being from on-site generation (as per submissions to the SLOCAPCD).

Table 4.6.3 Historical SMR Energy Use (Gas and Diesel)

Year	Internal Fuel Gas, mmscf	Utility Natural Gas, mmscf	On-site Diesel, Gallons
2017	2,561	12	5,867
2018	2,187	10	5,699
2019	2,480	4	3,079
2020	2,176	32	2,398
2021	1,767	29	3,461
Average	2,234	17	4,101

Notes: Fuel gas is generated on site by crude oil processing. Natural gas is purchased from off site. Diesel use is for pumps and other miscellaneous uses on site. mmscf is million standard cubic feet.

Source: SLOCAPCD annual reports

4.6.2 Regulatory Setting

The following sections describe regulatory issues related to energy. Regulatory issues related to greenhouse gases (GHGs) are discussed in Section 4.8, Greenhouse Gas Emissions.

4.6.2.1 Federal Regulations

Energy Policy and Conservation Act

The Energy Policy and Conservation Act of 1975 sought to ensure that all vehicles sold in the United States would meet certain fuel economy goals. Through this act, U.S. Congress established the first fuel economy standards for on-road motor vehicles in the United States. Pursuant to the act, the National Highway Traffic Safety Administration (NHTSA), which is part of the United States Department of Transportation (U.S. DOT), is responsible for establishing additional vehicle standards and for revising existing standards. Since 1990, the fuel economy standard for new passenger cars has been 27.5 miles per gallon (mpg). Since 1996, the fuel economy standard for new light trucks (gross vehicle weight of 8,500 pounds or less) has been 20.7 mpg. Heavy-duty vehicles (i.e., vehicles and trucks over 8,500 pounds gross vehicle weight) are not currently subject to fuel economy standards. Compliance with federal fuel economy standards is determined based on each manufacturer's average fuel economy for the portion of its vehicles produced for sale in the United States. The Corporate Average Fuel Economy (CAFE) program, administered by the United States Environmental Protection Agency (U.S. EPA), was created to determine vehicle manufacturers' compliance with the fuel economy standards. The U.S. EPA calculates a CAFE value for each manufacturer based on city and highway fuel economy test results and vehicle sales. Based on the information generated under the CAFE program, the U.S. DOT is authorized to assess penalties for noncompliance.

Energy Policy Act of 1992

The Energy Policy Act (EPAct) of 1992 was passed to reduce the Country's dependence on foreign petroleum and improve air quality. EPAct includes several parts intended to build an inventory of alternative fuel vehicles (AFVs) in large, centrally fueled fleets in metropolitan areas. EPAct requires certain federal, state, and local government and private fleets to purchase a percentage of light-duty AFVs capable of running on alternative fuels each year. In addition, financial incentives

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are included in EPAct. Federal tax deductions are allowed for businesses and individuals to cover the incremental cost of AFVs. States are also required by the act to consider a variety of incentive programs to help promote AFVs.

Energy Policy Act of 2005

The Energy Policy Act of 2005 was signed into law on August 8, 2005. Generally, the act provides for renewed and expanded tax credits for electricity generated by qualified energy sources, such as landfill gas; provides bond financing, tax incentives, grants, and loan guarantees for clean renewable energy and rural community electrification; and establishes a federal purchase requirement for renewable energy.

4.6.2.2 State Regulations

Warren-Alquist Act

The Warren-Alquist Act of 1975 established the California Energy Resources Conservation and Development Commission, referred to as the California Energy Commission (CEC). The act established a state policy to reduce wasteful, uneconomical, and unnecessary uses of energy by employing a range of measures.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) regulates privately owned telecommunications, electric, natural gas, water, railroad, rail transit, and passenger transportation companies. CPUC is responsible for ensuring that California utility customers have safe, reliable utility service at reasonable rates; protecting utility customers from fraud; and promoting the health of California's economy. CPUC establishes service standards and safety rules and authorizes utility rate changes, as well as enforcing California Environmental Quality Act (CEQA) compliance for utility construction.

CEQA Guidelines

Appendix F of the State CEQA Guidelines requires an EIR to include discussion of the potential energy impacts of proposed projects, with particular emphasis on avoiding or reducing inefficient, wasteful, and unnecessary consumption of energy (see Public Resources Code section 21100(b)(3)). According to Appendix F of the State CEQA Guidelines, the goal of conserving energy implies the wise and efficient use of energy including:

- a. Decreasing overall per capita energy consumption;
- b. Decreasing reliance on natural gas and oil; and
- c. Increasing reliance on renewable energy sources.

4.6.2.3 Local Regulations

County of San Luis Obispo General Plan

The Energy chapter of the General Plan's Conservation and Open Space Element (County 2010) contains the following goals and policies relevant to public services in relation to the Project:

- a. Goal E 3: Energy efficiency and conservation will be promoted in both new and existing development.
 - Policy E 3.1 Use of renewable energy: Ensure that new and existing development incorporates renewable energy sources such as solar, passive building, wind and thermal energy. Reduce reliance on non-sustainable energy sources to the extent possible using available technology and sustainable design techniques, materials, and resources.
 - Policy E 3.2 Energy efficient equipment: Require the use of energy-efficient equipment in all new development, including but not limited to Energy Star appliances, high-energy efficiency equipment, heat recovery equipment, and building energy management systems.
 - Policy E 3.3 Use of renewable energy for water and wastewater: Promote the use of renewable energy systems to pump and treat water and wastewater.
- b. Goal E 5: Recycling, waste diversion, and reuse programs will achieve as close to zero waste as possible.
 - Policy E 5.1 Source reduction and waste diversion: Encourage source reduction and diversion of solid waste generated to as near zero waste as possible, in order to reduce energy consumption.

4.6.3 Thresholds of Significance

The thresholds of significance for the Project are based on the CEQA Guidelines Appendix G. In accordance with the CEQA Guidelines Appendix G, would the Project:

- a. Use a substantial amount of fuel or energy that would:
 - Result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during project construction or operation; or
 - Conflict with or obstruct a state or local plan for renewable energy or energy efficiency?

Appendix F of the CEQA Guidelines also addresses energy use with the following applicable criteria:

- b. The effects of the project on local and regional energy supplies and on requirements for additional capacity;
- c. The effects of the project on peak and base period demands for electricity and other forms of energy;
- d. The degree to which the project complies with existing energy standards;
- e. The effects of the project on energy resources; and
- f. The project's projected transportation energy use requirements and its overall use of efficient transportation alternatives.

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4.6.4 Impact Assessment Methodology

The methodology to estimate energy use impacts utilizes the baseline energy consumptions levels and compares these to the Project energy use levels and if there are substantial increases. If there are increases, the ability of the utilities to supply this level of energy use are examined. Wasteful use or conflicts with plans are also examined.

4.6.5 Project-Specific Impacts and Mitigation Measures

Impact #	Impact Description	Residual Impact
EN.1	Thresholds a), b), c), and e): Would the Project use of a substantial amount of fuel or energy that would result in potentially significant environmental impact due to wasteful, inefficient, or unnecessary consumption of energy resources, during Project construction or operation; Would the effects of the Project impact local or regional energy supplies, capacity; Would the Project peak and base period demands for electricity and other forms of energy cause impacts; Would there be impacts on energy resources?	Class III

Energy consumption would occur during construction, including diesel fuel use associated with the on-site operation of off-road equipment and vehicles traveling to and from the construction site. Equipment utilized during this period is discussed in Chapter 2.0, Project Description. Site construction, including grading and infrastructure demolition, would occur over the period of the Project. However, minimal electrical use or natural gas use would be associated with Project construction activities. Energy use compared to the baseline SMR operations would decrease.

Long-term site monitoring for restoration would utilize minimal levels of fuels for on-site and off-site occasional vehicles.

Based on the equipment requirements and off-site vehicle movements, including employee vehicles, trucks and trains, peak annual fuel use is estimated at about 234,000 gallons per year for on-site activities and about 690,000 gallons per year for off-site vehicle movements (truck and rail) within California, for a total of about 928,000 gallons of gasoline and diesel fuel per year (see Appendix C). This compares to baseline use of about 600,000 gallons annually. The Project totals at most five percent of diesel fuel sold within the County, and a small fraction of diesel fuel sold within Southern California (many of the trains and trucks traveling longer distances most likely would be fueled out of the County). Due to the small percentages, this would not affect supplies or infrastructure capacity.

Construction equipment use and associated energy consumption would be consistent with the energy use that is commonly associated with construction activities. In addition, SLOCAPCD requirements related to limits on idling of heavy-duty diesel construction equipment to five minutes would be required, increasing efficiency. The short-term energy use associated with the construction phase of the Project would not result in the need for additional energy infrastructure capacity or increased peak-period demands for electricity. Therefore, construction-related impacts associated with inefficient, wasteful, or unnecessary energy consumption would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
EN.2	Thresholds d) and f): Would the Project be in compliance with energy standards and efficient transportation alternatives, or otherwise conflict with State or local plans?	Class III

The Project would not result in additional development that could cause an increase in energy consumption or require building efficiencies, such as with the building code or County requirements for development. The Project would utilize train transport for the majority of demolition and remediation materials, which is more fuel efficient than truck transportation on a per ton basis, and would therefore be utilizing the transportation system efficiently. As the energy use of the Project would be less than the electrical use, natural gas use, and long-term gasoline/diesel fuel use associated with the historical SMR operations, there would not be an impact to standards or efficient transportation methods. Impacts to energy standards or transportation alternatives would be **less than significant (Class III)**.

4.6.6 Mitigation Measure Impacts to Other Issue Areas

As no mitigation measures are proposed for energy, there would not be any impact from the mitigation measures on other issue areas.

4.6.7 Cumulative Impacts

Cumulative projects are discussed in Chapter 3.0, Cumulative Study Area. Cumulative projects are discussed in each of the categories below.

Ongoing SMR projects, including the Slop Oil Spill and the Northern Inactive Waste Site (NIWS) remediation projects and the remaining facilities off-site projects (Summit Pump Station and Santa Maria Pump Station), would not involve large amounts of energy use and therefore, in combination with the Project, would not have a cumulative impact for either impact EN.1 or EN.2.

Other projects in the area, such as the Arroyo Grande Oil Field, Caballero Battery project, Monarch Dunes or the Dana Reserve development projects, or the Santa Barbara County projects (as discussed in Chapter 3.0, Cumulative Study Area), would entail the use of energy and could contribute to increases in energy use in the area during construction or operations. However, as the Project would involve a substantial reduction in electrical and natural gas use compared to the baseline SMR operations, a cumulative impact would not occur.

Roadway projects would not entail the use of large amounts of energy and would therefore not produce cumulative impacts.

4.6.8 References

California Consumption Data Management System (CCDMS). 2024a. California Consumption Data Management System, Electricity Consumption by Planning Area. Available at: <http://www.ecdms.energy.ca.gov/elecbyplan.aspx>. Accessed January 2024.

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California Energy Commission (CEC). 2023. California Retail Fuel Outlet Annual Reporting (CEC-A15) Results and Estimates. Available at: <https://www.energy.ca.gov/data-reports/energy-almanac/transportation-energy/california-retail-fuel-outlet-annual-reporting>. Accessed July 2023.

County of San Luis Obispo (County). 2010. County of San Luis Obispo General Plan, Conservation and Open Space Element. Available at: [https://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Plans-and-Elements/Elements/Conservation-and-Open-Space-Element-\(1\)/Conservation-and-Open-Space-Element.pdf](https://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Plans-and-Elements/Elements/Conservation-and-Open-Space-Element-(1)/Conservation-and-Open-Space-Element.pdf).

4.7 Geology and Soils

This section addresses issues involving geology and soils resulting from the Project. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition of aboveground infrastructure and remediation of the site, followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

4.7.1 Environmental Setting

4.7.1.1 Regional Geologic Setting

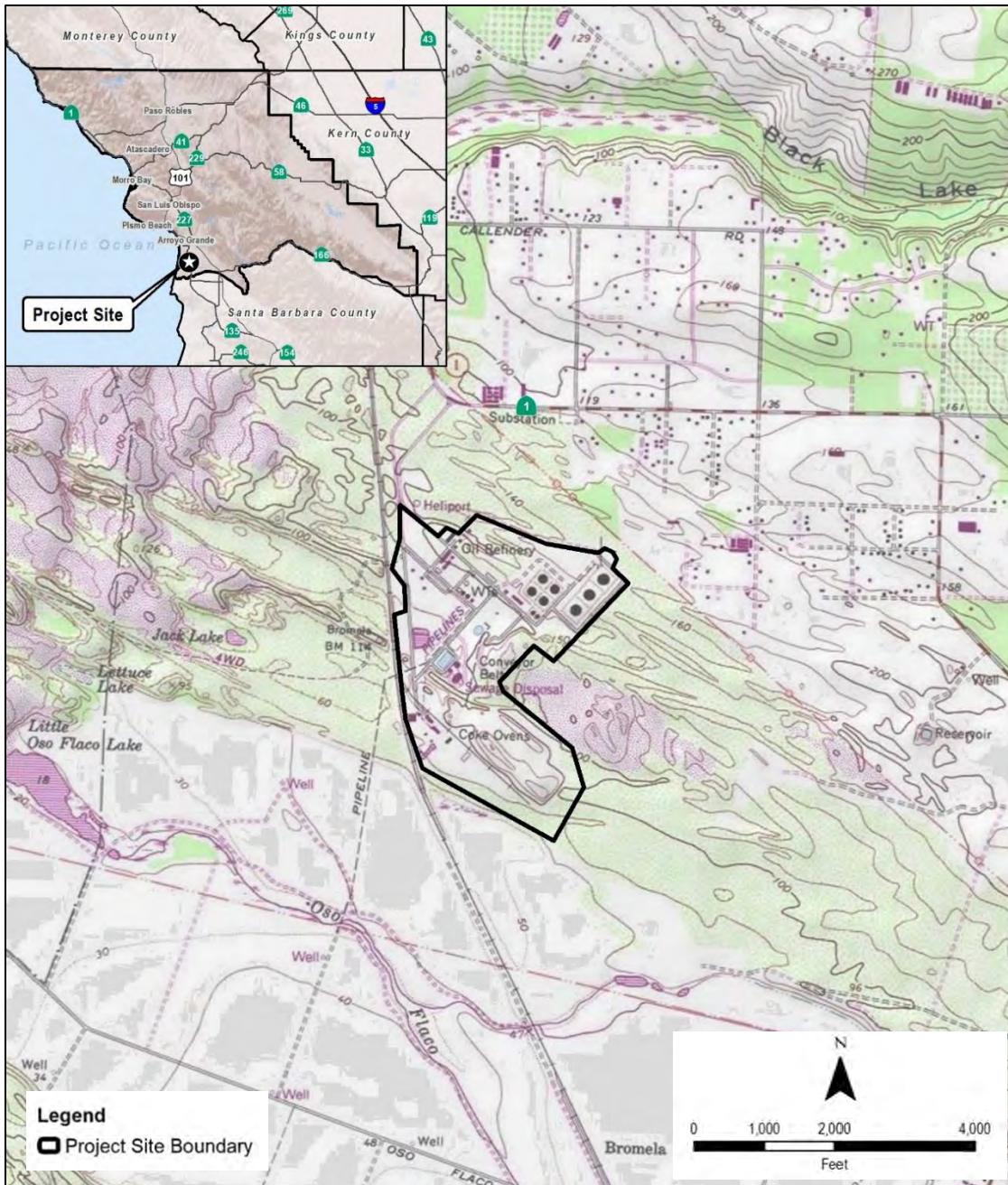
The Project site is located in the Santa Maria Valley, at the southwestern edge of the Nipomo Mesa. The Nipomo Mesa and Santa Maria Valley comprise a structural and topographic basin bounded by the Casmalia and Solomon Hills on the south, Pacific Ocean on the west, Edna Hills and Newsom Ridge on the north-northeast, and San Rafael Mountains on the east-southeast. The regional geologic structure surrounding and including the Santa Maria Valley area is extremely complex, as it lies within the structural influence of both the California Coast Ranges and the Transverse Ranges of southern California. The older rocks, which are exposed in the bordering ranges, are concealed at considerable depth beneath Tertiary and Quaternary rocks. The Tertiary rocks form a series of west-trending folds. Of these folds, the northern-most forms the basin beneath the Santa Maria and Sisquoc valleys (Worts 1951).

4.7.1.2 Topography and Stratigraphy

The Project site is located on undulating dune topography, with elevations ranging from approximately 100 to 180 feet above mean sea level (see Figure 4.7-1). The slope gradients are predominantly gentle, with localized engineered slopes up to 30 feet high where the topography has been modified by grading. The engineered slope gradients are generally 2:1 (horizontal to vertical) or flatter. Spill containment berms are constructed around aboveground storage tanks. In addition, a large evaporation/percolation basin (Evaporation Pond 2) with engineered side slopes is located in the southwest part of the site (see Figure 2-3).

4.7 Geology and Soils

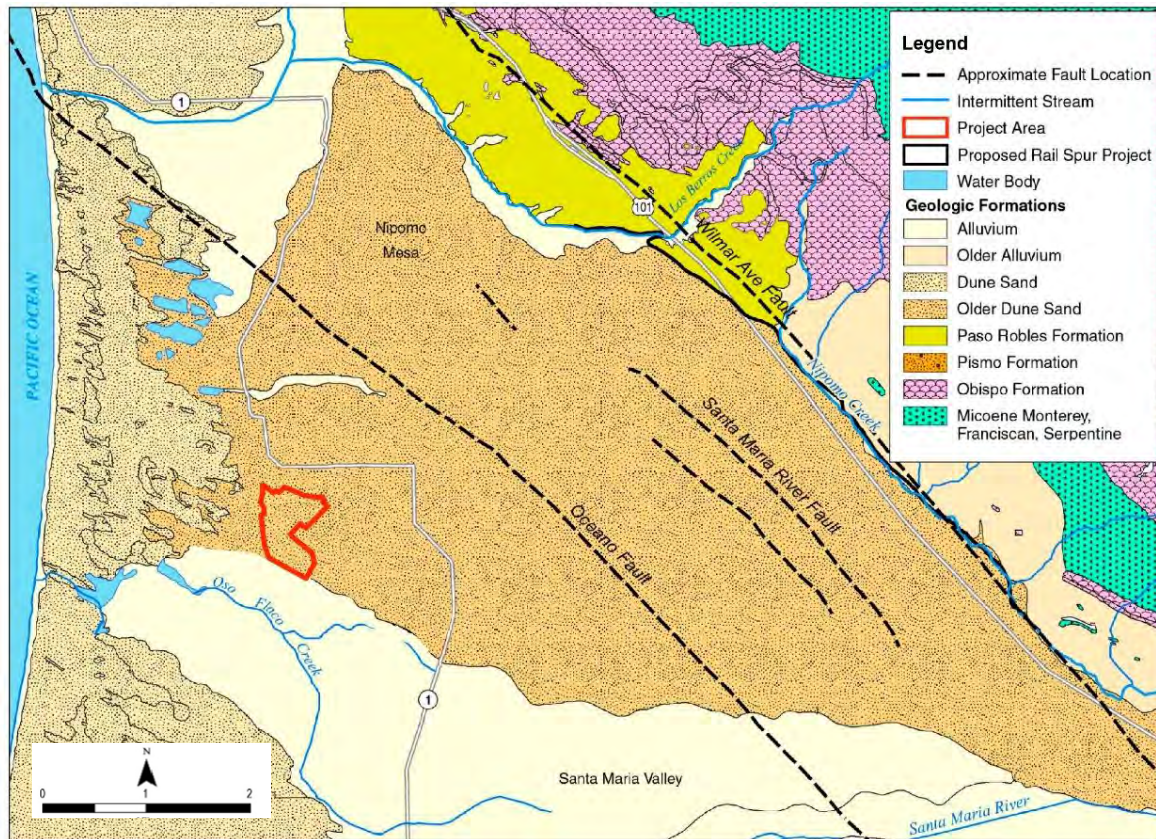
Figure 4.7-1 Regional Project Topography



Source: USGS 7.5-Minute Quads

Underlying sediments, to a depth of approximately 60 feet, are relatively uniform across the Project site, consisting primarily of poorly-graded dune sands with limited thin interbeds of silt and clay (see Figure 4.7-2). The sands are generally loose to medium dense at the surface, becoming denser and slightly coarser grained with depth. These late Quaternary wind-blown deposits are underlain by late Quaternary alluvium, Plio-Pleistocene sediments of the Paso Robles Formation, and/or Pliocene and Miocene age sedimentary rocks (Dames & Moore 1990; County 2015).

Figure 4.7-2 Geology of Project Area



Source: CDWR 2002; County 2015

The active wastewater outfall line originates at the water effluent treatment (WET) plant (Area 7 on Figure 2-3) and runs west through the Pismo/Oceano dunes for two miles to the shoreline and then terminates at a seafloor diffuser located 0.5 mile offshore in State Lands lease Public Resources Code (PRC) 1449.1, at a surveyed depth of approximately 38 feet below mean sea level. Inshore portions of the outfall line corridor lie beneath a zone of shallow sand bars and breaking waves. The nearshore environment features a broad sand beach, which is exposed to the prevailing northwesterly wind and swells (Tenera/Stantec 2023). Active sand dunes between the intertidal zone and the Santa Maria Refinery (SMR) consist of a series of parallel ridges generally aligned perpendicular to the prevailing west-northwesterly winds. The topography of the older dune sands, which comprise the sediments along the eastern portion of the outfall line, generally consists of broad west-northwest trending drainages and intervening broad ridges.

4.7.1.3 Seismicity and Faulting

The County of San Luis Obispo (County) is located in a geologically complex and seismically active region that is subject to earthquakes and potentially strong ground shaking. Earthquakes up to magnitude 4.0 commonly occur throughout the region and available historical and instrumental data indicate at least 11 magnitude 5.0 to 6.5 earthquakes have occurred in the onshore and offshore areas of the site region since 1902. In addition to these local earthquakes, the 1927 Lompoc

4.7 Geology and Soils

earthquake (magnitude 7.0), located offshore of Point Arguello, and the 1857 Fort Tejon earthquake (magnitude 7.9), located on the San Andreas Fault, generated significant strong ground motion at the site (Dames & Moore 1990).

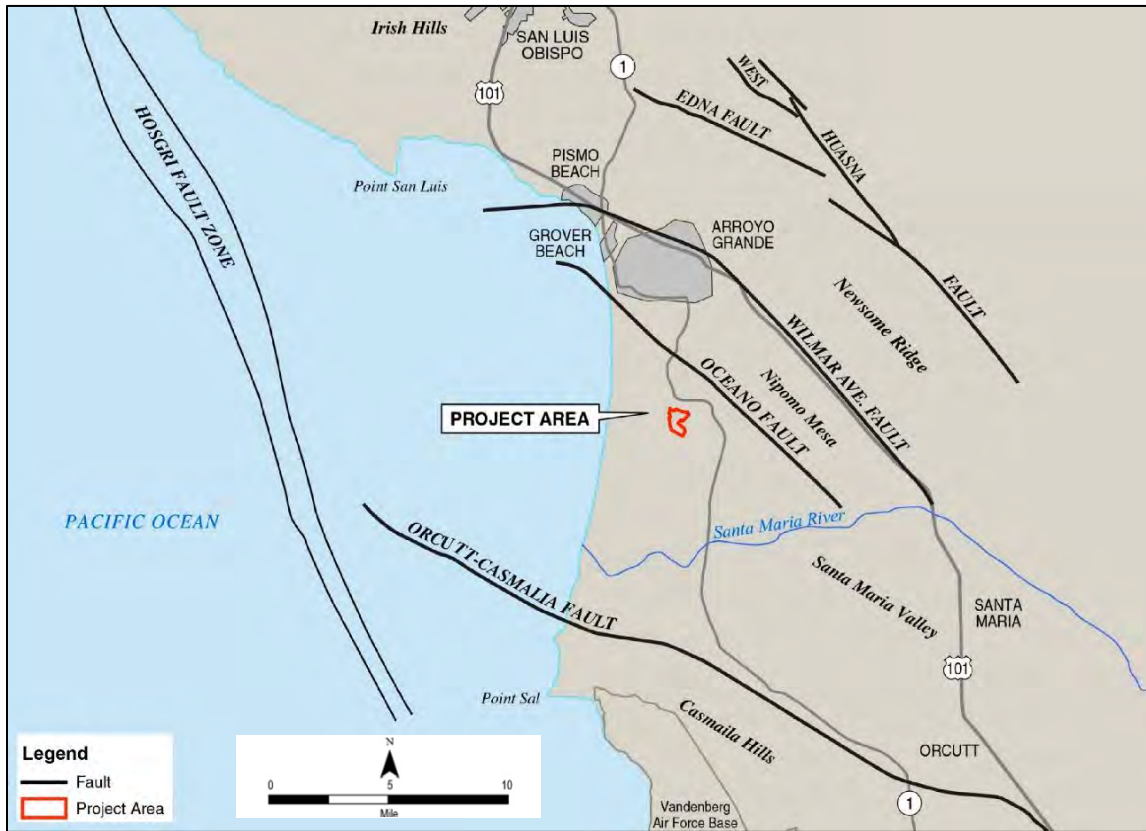
Surface fault rupture is the displacement of ground surface that occurs along a fault line during an earthquake event. Based on criteria established by the California Geological Survey (CGS), previously known as the California Division of Mines and Geology, faults are classified as either Holocene-active, pre-Holocene, or age-undetermined. Faults are considered active when they have shown evidence of movement within the past 11,700 years (i.e., Holocene epoch). Pre-Holocene faults, also known as potentially active faults, are those that have shown evidence of movement more than 11,700 years ago and generally before 1.6 million years (Quaternary age). Faults whose age of most recent movement is not known or is unconstrained by dating methods or by limitations in stratigraphic resolution are considered age-undetermined and inactive (CGS 2018).

The Alquist-Priolo Earthquake Fault Zoning Act (formerly known as the Alquist-Priolo Special Studies Zones Act) established state policy to identify active faults and determine a boundary zone on either side of a known fault trace, called an Alquist-Priolo Earthquake Fault Zone. The delineated width of an Alquist-Priolo Earthquake Fault is based on the location, precision, complexity, or regional significance of the fault and can be between 200 and 500 feet in width on either side of the fault trace. If a site lies within a designated Alquist-Priolo Earthquake Fault Zone, a geologic fault rupture investigation must be performed to demonstrate that a proposed building site is not threatened by surface displacement from the fault before development permits may be issued (CGS 2018). The closest Alquist-Priolo Earthquake Fault Zone to the Project site is the Los Osos Fault Zone, located near the City of San Luis Obispo, approximately 17 miles to the north-northwest (CGS 2023).

Major active or potentially active faults in the region include the Hosgri, Orcutt-Casmalia, Wilmar Avenue, and Oceano faults (see Figures 4.7-2 and 4.7-3). These faults have the potential to generate the greatest strong ground motion at the site. Other faults in the region, including the Los Osos and Lion's Head faults, could also generate earthquakes that could affect the site (Dames & Moore 1990).

In 2008, the U.S. Geological Survey (USGS) produced updated seismic hazard maps for the conterminous United States, including peak ground accelerations (PGAs) and spectral accelerations for a range of return periods and exceedance probabilities (Peterson et al. 2008). Multiple seismogenic source zones and ground motion prediction equations were used to develop the maps and hazard values. Predicted PGA values for the site based on USGS data are provided in Table 4.7.1 (County 2015). PGA depends largely on the ability of the surficial geologic unit to transmit seismic energy. These values were calculated using shear wave velocities representative of deep alluvial or eolian deposits observed in the area (CDWR 2002).

Figure 4.7-3 Generalized Fault Map of Project Area



Source: Dames and Moore 1990; CDWR 2002; County 2015

Table 4.7.1 Project Peak Ground Acceleration Values

Return Period (Years)	PGA (%g)	Mean Magnitude	Mean Distance (km)
30	10.72	6.52	65.7
72	10.73	6.65	51.4
144	15.22	6.69	41.7
475	26.04	6.67	28.2
1485	40.49	6.62	19.1
2475	48.27	6.61	16.3
4950	59.57	6.60	13.6
9900	71.84	6.59	11.7

Source: County 2015

The highest predicted PGA value for a seismic event in the Project area with a return period of 144 years or less would be 0.15g. The predicted PGA would create strong ground shaking corresponding to a Modified Mercalli Intensity of VI, which could potentially cause light infrastructure damage (Wald et al. 1999; County 2015).

Similarly, a site-specific seismic analysis was completed for previous SMR upgrades (Dames & Moore 1990). Available geologic data suggest that the highest PGAs occurring at the Project site,

4.7 Geology and Soils

in association with a maximum credible earthquake (MCE), would occur on the Orcutt-Casmalia or Hosgri faults, which have an MCE of magnitude 6.9 and 7.2, respectively. The PGAs for the MCE, maximum probable earthquake (MPE), and Upper-Level Event (ULE) earthquakes on both these faults would be similar (approximately 0.14g to 0.15g for ULE earthquakes, 0.26g for the MCE, and 0.09g for the MPE) and are probably the most relevant for design considerations at the site. The ULE has a 10 percent probability of occurrence in 50 years, which is equivalent to a recurrence interval of approximately 475 years (Dames & Moore 1990).

Seismic design criteria have been updated since completion of the 1990 Dames & Moore seismic analysis. The 2022 California Building Code (CBC) currently requires that structures be designed to resist a minimum seismic force resulting from ground motion having a 2 percent probability of being exceeded in a 50-year period (CBC 2023; ASCE 2023), which is a more conservative, stricter approach than a 10 percent probability of occurrence in 50 years.

4.7.1.4 Liquefaction

State of California Liquefaction Hazard Zones have not been established for the County; however, the County General Plan Safety Element indicates that locally shallow groundwater and sandy soils have created a moderate potential for liquefaction in the Project area (Figure 4.7-4) (County 1999). Liquefaction is the phenomenon in which loose, saturated, granular soils lose strength due to excess pore water pressure buildup during an earthquake. Liquefaction is usually manifested by the formation of boils and mud-spouts at the ground surface, by seepage of water through ground cracks, or in some cases by the development of quick-sand-like conditions.

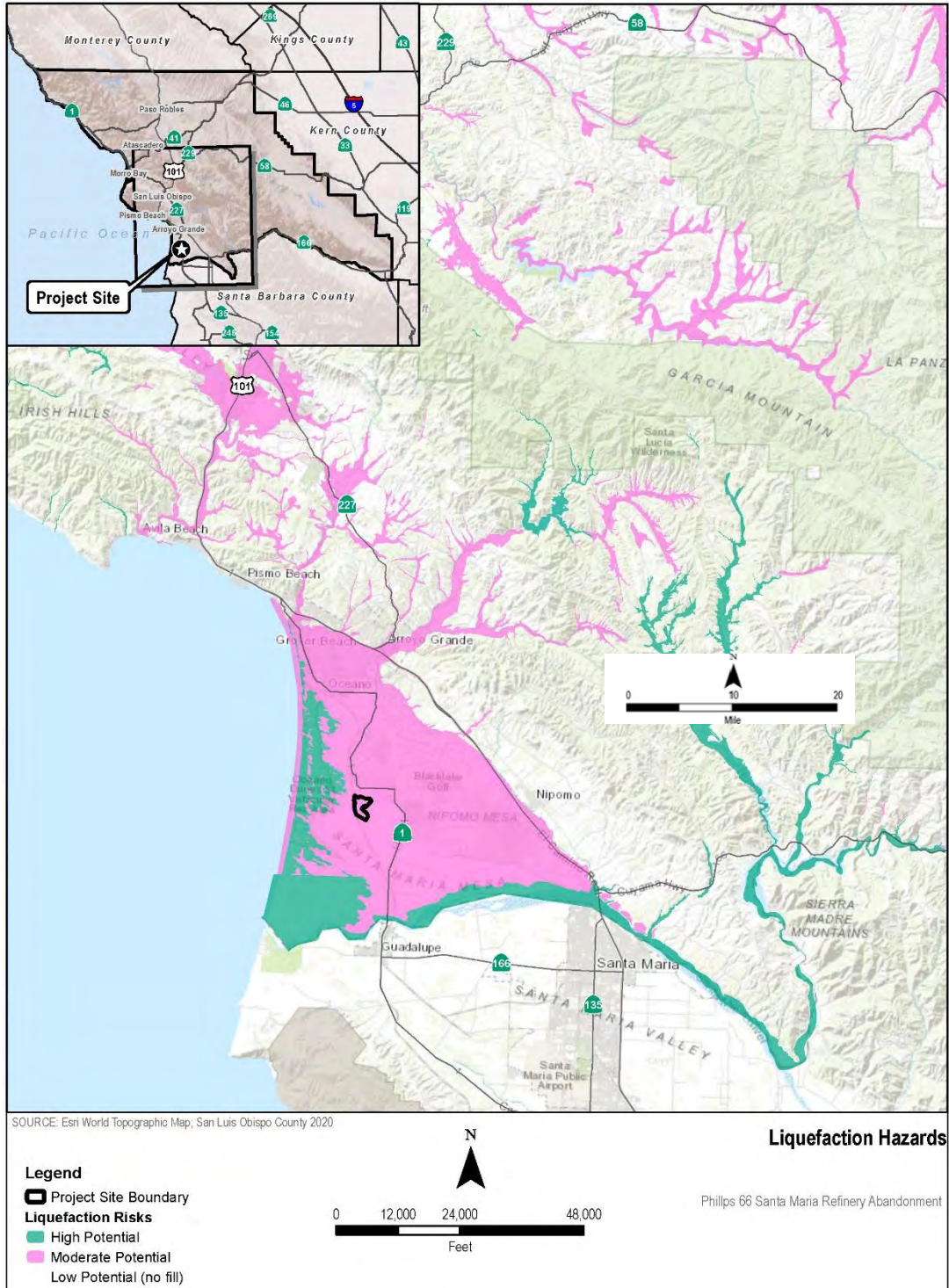
Where the latter occurs, structures or equipment may sink substantially into the ground or tilt excessively, light weight structures may float upwards, and foundations may displace vertically or laterally, causing structural failures. The phenomenon of liquefaction generally adds to the damages which would otherwise be caused by strong ground motions alone. Lateral spreading typically occurs in association with liquefaction. Lateral spreading occurs when liquefaction of a subsurface layer causes the mass to flow down slope, moving blocks of ground at the surface.

The proximity of the site to the Oso Flaco Creek floodplain to the south indicates that high groundwater levels may be seasonally high or under other high water table conditions. In 1990, borings drilled at the SMR indicated that shallow groundwater was locally present at an elevation of 56 to 58 feet above mean sea level, corresponding to a depth of approximately 40 feet in the lower elevations of the Project site. Borings drilled from higher elevations within the SMR, up to 40 feet higher than the lower portions of the Project site, did not encounter groundwater to a depth of 61 feet (Dames & Moore 1990). Borings subsequently drilled in 2008 at the SMR did not encounter groundwater to a maximum depth of 31 feet, although these borings were also drilled at elevations up to 40 feet higher than the lower portions of the Project site (County 2015).

The Project site is underlain by relatively uniform sand. In general, the sands are sufficiently dense to resist liquefaction at levels of seismically induced ground motion corresponding to the ULE earthquake (Dames & Moore 1990). However, as indicated in Figure 4.7-4, the area between the Project site and the Pacific Ocean is considered an area of high liquefaction potential and therefore, the wastewater outfall pipeline and outfall terminus are in an area with high potential for

liquefaction. The Project site is not in an area of documented land subsidence due to groundwater pumping, peat loss, or oil extraction (USGS 2023).

Figure 4.7-4 Liquefaction Hazards



Source: County 2020

4.7.1.5 Mineral Resources

The CGS has classified land in the County according to the presence or absence of significant Portland cement concrete-grade aggregate deposits. The Project site is within an area classified as MRZ-3, which contains known or inferred mineral occurrences of undetermined mineral resource significance. Only Portland cement concrete (PCC)-grade criteria were considered in classifying MRZ-3 areas. MRZ-2 areas, which are areas with a high likelihood for the occurrence of significant mineral resources, have been mapped by the CGS in combination with areas having current land uses deemed compatible with potential mining. The closest such area to the Project site is located approximately 0.6 mile southeast of the Project site (CGS 2011).

The County has similarly classified land in the County according to the presence or absence of appreciable mineral resources. The Project site is not located in an Energy or Extractive Resource Area (EX) or Extractive Resource Area (EX-1). The closest aggregate production areas, which are designated EX-1 areas, are located approximately three miles southwest and six miles southeast of the Project site, respectively, along the Santa Maria River (County 2010; CGS 2012).

4.7.2 Regulatory Setting

4.7.2.1 Federal Regulations

Occupational Safety and Health Administration Regulations

Excavation and trenching are among the most hazardous construction operations. Occupational Safety and Health Administration (OSHA) Excavation and Trenching Standard, Title 29 of the Code of Federal Regulations, Part 1926, Subpart P, covers requirements for excavation and trenching operations. OSHA requires that all excavations in which employees could potentially be exposed to cave-ins be protected by sloping or benching the sides of the excavation, supporting the sides of the excavation, or placing a shield between the side of the excavation and the work area.

4.7.2.2 State Regulations

California Building Standards Code

The state regulations protecting structures from geo-seismic hazards are contained in the CBC (24 California Code of Regulations [CCR] Part 2), which is updated on a triennial basis. These regulations apply to public and private buildings in the state. Until January 1, 2008, the CBC was based on the then-current Uniform Building Code and contained additions, amendments, and repeals specific to building conditions and structural requirements of the State of California. The 2022 CBC, effective January 1, 2021, is based on the 2021 International Building Code and enhances the sections dealing with existing structures. Seismic-resistant construction design is required to meet more stringent technical standards than those set by previous versions of the CBC.

Chapters 16 and 16A of the 2022 CBC include structural design requirements governing seismically resistant construction, including (but not limited to) factors and coefficients used to establish seismic site class and seismic occupancy category for the soil/rock at the building

location and the proposed building design. Chapters 18 and 18A include the requirements for foundation and soil investigations (Sections 1803 and 1803A); excavation, grading, and fill (Sections 1804 and 1804A); damp-proofing and water-proofing (Sections 1805 and 1805A); allowable load-bearing values of soils (Sections 1806 and 1806A); the design of foundation walls, retaining walls, embedded posts and poles (Sections 1807 and 1807A), and foundations (Sections 1808 and 1808A); and design of shallow foundations (Sections 1809 and 1809A) and deep foundations (Sections 1810 and 1810A). Chapter 33 of the 2022 CBC includes requirements for safeguards at work sites to ensure stable excavations and cut or fill slopes (Section 3304).

Construction activities are subject to occupational safety standards for excavation and trenching, as specified in the California Safety and Health Administration regulations (Title 8 of the CCR, see below) and in Chapter 33 of the CBC. These regulations specify the measures to be used for excavation and trench work where workers could be exposed to unstable soil conditions. The Project would be required to employ these safety measures during excavation and trenching.

California Health and Safety Code

Sections 17922 and 17951–17958.7 of the California Health and Safety Code require cities and counties to adopt and enforce the current edition (2022) of the CBC, including a grading section. Sections of Volume II of the CBC specifically apply to select geologic hazards.

California Occupational Safety and Health Administration Regulations

In California, California OSHA (Cal/OSHA) has responsibility for implementing federal rules relevant to worker safety, including slope protection during construction excavations. Cal/OSHA's requirements are more restrictive and protective than federal OSHA standards. Title 8 of the CCR, Chapter 4, Division of Industrial Safety, covers requirements for excavation and trenching operations, as well as safety standards whenever employment exists in connection with the construction, alteration, painting, repairing, construction maintenance, renovation, removal, or wrecking of any fixed structure or its part.

Surface Mining and Reclamation Act

The Surface Mining and Reclamation Act of 1975 (SMARA) was enacted to promote conservation of the state's mineral resources and to ensure adequate reclamation of lands once those lands have been mined. Among other provisions, SMARA requires the State Geologist to classify land in California for mineral resource potential. The State Geologist submits the mineral land classification report to the State Mining and Geology Board, which transmits the information to appropriate local governments that maintain jurisdictional authority in mining, reclamation, and related land use activities.

Local governments are required to incorporate the State Mining and Geology Board report and maps into their general plans and consider the information when making land use decisions. In accordance with the SMARA, Section 2762, before permitting a use in an MRZ-3 area that would threaten the potential to extract minerals in that area, the lead agency must first require the significance of the minerals to be evaluated. The lead agency's report must be forwarded to the State Geologist.

4.7 Geology and Soils

4.7.2.3 Local Regulations

County of San Luis Obispo General Plan

The County's General Plan Safety Element provides measures for evaluation of geologic hazards and geotechnical requirements related to new construction to reduce the potential for loss of life and reduce the amount of property damage. In addition, the County's Conservation and Open Space Element balances protection of mineral and other resources in order to enable exploitation of important mineral resources, while protecting the environment.

4.7.3 Thresholds of Significance

The following significance criteria for geology and soils were derived from the County's Environmental Checklist, which was developed in accordance with Appendix G of the State California Environmental Quality Act (CEQA) Guidelines. Impacts of the Project would be considered significant and would require mitigation if the Project:

- a. Results in exposure to or production of unstable earth conditions, such as landslides, earthquakes, liquefaction, ground failure, land subsidence, or other similar hazards;
- b. Is located in a CGS Alquist-Priolo Earthquake Fault Zone, or other known fault zones, per the California Division of Mines and Geology Special Publication 42;
- c. Results in soil erosion, topographic changes, loss of topsoil, or unstable soil conditions from Project-related improvements, such as vegetation removal, grading, excavation, or fill;
- d. Includes structures located on expansive soils;
- e. Is inconsistent with the goals and policies of the County's Safety Element relating to geologic and seismic hazards; or
- f. Precludes the future extraction of valuable mineral resources.

4.7.4 Impact Assessment Methodology

Potential direct and indirect Project impacts related to geology and soils were evaluated against the thresholds of significance listed in Section 4.7.3 and are discussed below. The impact analysis evaluates potential Project impacts during both demolition and remediation activities (construction phase) and restoration (revegetation and monitoring phase).

In December 2015, in *California Building Industry Association v. Bay Area Air Quality Management District* (2015) 62 Cal.4th 369, 392, the California Supreme Court found that "agencies generally subject to CEQA are not required to analyze the impact of existing environmental conditions on a project's future users or residents. But when a proposed project risks exacerbating those environmental hazards or conditions that already exist, an agency must analyze the potential impact of such hazards on future residents or users. In those specific instances, it is the project's impact on the environment – and not the environment's impact on the project – that compels an evaluation of how future residents or users could be affected by exacerbated conditions." Thus, with respect to geologic and seismic hazards, the County is not required to consider impacts to infrastructure remaining on site, including the wastewater outfall,

unless the remnant infrastructure itself would worsen or otherwise exacerbate the geologic conditions on site. Nonetheless, in order to provide a complete picture of the Project, geologic and seismic hazard impacts are discussed below.

4.7.5 Project-Specific Impacts and Mitigation Measures

Impact #	Impact Description	Residual Impact
GEO.1	Threshold a): Would the Project potentially result in exposure to or production of unstable earth conditions, such as landslides, earthquakes, liquefaction, ground failure, land subsidence, or other similar hazards?	Class III

Seismicity

As discussed in Section 4.7.1, the County is located in a geologically complex and seismically active region that is subject to earthquakes and potentially strong ground shaking. Major active or potentially active faults in the region include the Hosgri, Orcutt-Casmalia, Wilmar Avenue, and Oceano faults (Figures 4.7-2 and 4.7-3). These faults have the potential to generate the greatest strong ground motion at the site. Available geologic data suggest that the highest PGAs occurring at the Project site, in association with a MCE, would occur on the Orcutt-Casmalia or Hosgri faults, which have an MCE of magnitude 6.9 and 7.2, respectively. In general, SMR sediments are sufficiently dense to prevent liquefaction at levels of seismically induced ground motion corresponding to the ULE earthquake. However, the wastewater outfall pipeline traverses an area of potentially high liquefaction potential. The Project area is not located in an area of documented land subsidence.

The Project would not include any new construction. The Project would include demolishing existing aboveground and some belowground facilities where remediation is required, except for any essential infrastructure or utilities required to be kept in place by regulatory authorities, and features for potential use by subsequent site occupants, including the existing wastewater treatment system ocean outfall pipeline. In the absence of processing of crude oil at the site, abandonment of the facility would reduce the potential for releases of crude oil and related substances into the environment because of seismically induced ground movement and associated equipment failure (some minor equipment would remain).

The wastewater outfall pipeline is not underlain by an active fault and would not be subject to rupture as a result of fault movement. The outfall would likely be subject to strong seismically induced ground movement and associated liquefaction, which may include differential settlement and rupture. However, as described in Section 4.7.4, significant impacts would only occur in the event the Project caused or exacerbated the potential for earthquakes and associated ground failure to occur. Leaving the outfall pipeline in-place following SMR demolition and remediation completion would not cause or exacerbate the potential for earthquakes and associated ground failure to occur. For the purposes of this analysis, it is assumed that the outfall pipeline would be empty following SMR abandonment. Therefore, any potential rupture of the outfall pipeline would not result in the release of any substances that might result in adverse environmental impacts. Any future users of the outfall would be subject to additional CEQA review with respect to potential

4.7 Geology and Soils

spills from the outfall. As a result, seismic related impacts at the wastewater outfall pipeline would be less than significant.

Slope Stability

On-site slope gradients at the SMR are predominantly gentle, with localized engineered slopes up to 30 feet high where the topography has been modified by grading. The engineered slope gradients are generally 2:1 (horizontal to vertical) or flatter. As a result, the potential for on-site landslides is low. Proposed soil remediation would entail assessment and characterization of site soil and excavation in areas of identified impacted soils, where needed, and stockpiling, loading, and hauling of impacted material for off-site disposal. Groundwater remediation is not anticipated to be required, as discussed further below, but is ongoing. Phillips 66 indicates that the SMR is currently coordinating its investigation and remediation programs with the Central Coast Regional Water Quality Control Board. Although the full details of site remediation are still not yet known, County planning staff indicated the need to evaluate the demolition activities concurrent with the site remediation activities in the same CEQA analysis. For the purposes of Project impacts related to geology and soils, the conceptual remediation approach for the site only includes excavation and off-site disposal, followed by backfill, hardscape replacement where needed and minimal grading of the site to match the surrounding topography (primarily in Area 6, Coke Storage; see Chapter 2.0, Project Description, Figure 2-3).

Excavations for facility and infrastructure demolition/removal and soil remediation would result in temporary steep slopes pending completion of remediation with final site grading to match existing slopes. These temporary excavations would likely include relatively narrow trenches with vertical walls, such as for utility or pipeline removal, or large open excavations with temporary steep slopes created during removal of contaminated soil. Temporary slopes are typically created at a gradient of $\frac{3}{4}$:1 to prevent caving and failure. In the absence of proper shoring and/or temporary slope construction, trench sidewalls and temporary slopes could collapse, resulting in injury or death to on-site personnel.

However, temporary excavations would be completed in accordance with Cal/OSHA, which has responsibility for implementing federal rules relevant to worker safety, including slope protection during construction excavations. As described in Section 4.7.2, Cal/OSHA's requirements are more restrictive and protective than federal OSHA standards. Title 8 of the CCR, Chapter 4, Division of Industrial Safety, covers requirements for excavation and trenching operations, as well as safety standards whenever employment exists in connection with removal or wrecking of any fixed structure or its part. Compliance with Cal/OSHA regulations would prevent caving of temporary trench walls and failure of temporary steep slopes during facility/infrastructure removals and soil remediation activities. As a result, slope stability related impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
GEO.2	Threshold b): Would the Project be located in a CGS Alquist-Priolo Earthquake Fault Zone, or other known fault zones, per the California Division of Mines and Geology Special Publication 42.?	Class III

As discussed in Section 4.7.1, no known fault zones traverse the SMR or wastewater outfall pipeline. The closest Alquist-Priolo Earthquake Fault Zone to the Project site is the Los Osos Fault Zone, located near the City of San Luis Obispo, approximately 17 miles to the north-northwest. Major active or potentially active faults identified in the region include the Hosgri, Orcutt-Casmalia, Wilmar Avenue, and Oceano faults (Figures 4.7-2 and 4.7-3). As a result, no impacts would occur with respect to known fault zones, and Project impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
GEO.3	Threshold c): Results in soil erosion, topographic changes, loss of topsoil, or unstable soil conditions from Project-related improvements, such as vegetation removal, grading, excavation, or fill?	Class III

The Project would include demolishing existing aboveground and some of the belowground facilities where remediation is required, except for any essential infrastructure or utilities required to be kept in place by regulatory authorities, and features for potential use by subsequent site occupants, including the existing wastewater treatment system ocean outfall pipeline. Excavations for removal of foundations, pipelines, utilities, and other facilities, where needed for remediation, would result in soil disturbance and temporary soil stockpiling, pending off-site disposal or reuse on site. Similarly, soil remediation would involve soil excavations and temporary soil stockpiling, pending sampling and analysis to determine appropriate off-site disposal options.

Equipment staging areas would be established in paved areas of the site, and existing roads and accessways would be used for hauling. In the vegetated areas at the site perimeters, soil testing equipment could result in soil disturbance during testing, and disturbance would occur during remediation activity where test results are positive. Existing vegetation within the SMR fence line would be disturbed locally during demolition and remediation. Topsoil would be segregated and stored in stockpiles pending reuse during revegetation. In the absence of proper soil management, each of these soil disturbing activities could result in wind and water erosion, and associated off-site sedimentation of downstream water bodies, including Oso Flaco Creek, located approximately 0.6 mile southwest of the Project site, and Little Oso Flaco Lake (Figure 4.10-1), located 0.25 mile from the Pacific Ocean. Oso Flaco Creek and its tributary Little Oso Flaco Creek are mostly channelized and generally flow year-round, supported by irrigation tailwater runoff (see Section 4.10, Hydrology and Water Quality).

However, because ground disturbance would be greater than 1.0-acre, Project soil disturbing activities would be completed in accordance with the National Pollutant Discharge Elimination System (NPDES) General Permit for Stormwater Discharges Associated with Construction and

4.7 Geology and Soils

Land Disturbance Activities (Construction General Permit) (see Section 4.10 for additional information). NPDES compliance measures require a standard Construction Stormwater Pollution Prevention Plan (SWPPP) and associated Best Management Practices (BMPs), to be implemented for sediment and erosion control during site demolition, soil remediation, and site grading. Applicable BMPs may include surface roughening, mulching, and installation of silt fences and biodegradable fiber rolls or wattles to reduce erosion and sedimentation rates during vegetation establishment. Typical BMPs would ensure soil remediation and grading is primarily conducted during dry-weather conditions, water is used for moisture control of exposed soils to prevent wind erosion when temporarily disturbed, coverings for temporary stockpiles, temporary catch basins, and sandbagging. If soil remediation and subsequent site grading are made during the rainy season (typically from October through April), BMPs would be implemented to protect slopes against erosion. Measures to help minimize erosion could include the installation of berms, plastic sheeting, or other devices to protect exposed soils from the effects of precipitation. Surface water would be prevented from flowing over or ponding at the top of excavations.

Post demolition and remediation, sediment control structures would be inspected and maintained until vegetation becomes adequately established. The Project site would be a combination of existing paved roads, other hardscapes, and areas revegetated after ground disturbance (primarily Area 6 – Coke Storage). Areas disturbed by demolition and remediation would be restored to previous hardscapes or would involve plantings and revegetation to achieve long-term dust control and minimize potential erosion and sedimentation. In addition to Area 6, the restoration area may include existing vegetated areas within the SMR fence line that could be disturbed during demolition and remediation. Portions of the existing SMR where hardscape would be removed in order to access subsurface infrastructure or impacted soil would be restored with hardscapes, including aggregate from crushed concrete, poured concrete slurry, or asphalt, and returned to the original contour.

Final site contouring would be configured such that site drainage continues to be retained on site, with no off-site runoff, thus minimizing erosion. The preliminary grading plan final site contour, very similar to existing contours, is configured to retain post-construction site drainage on site and to convey on-site flows in a non-erosive manner that prevents potential off-site stormwater impacts.

The Construction SWPPP would include an Operation, Monitoring, and Maintenance (OM&M) Plan to monitor and maintain BMP effectiveness. The OM&M Plan would consist of monitoring by a Qualified Storm Water Practitioner (QSP), or trained delegate, until the Notice of Termination for coverage under the Construction General Permit is accepted (i.e., when the Construction General Permit parameters for site stabilization are achieved). The OM&M Plan would describe the expected types and frequency of maintenance activities that would be implemented to ensure that stormwater features effectively convey stormwater runoff throughout the site. Maintenance activities may include, but are not limited to, removal of sediment from conveyance swales, repair of riprap, maintenance of fiber rolls, and maintenance of the perimeter security fence. Natural stormwater management features would be selected for final implementation to the extent practicable. Maintenance of the features should not be required after the site vegetation is fully established.

With implementation of the Construction SWPPP and OM&M Plan, short-term and long-term erosion-related impacts at the SMR would be less than significant.

As discussed in Section 4.7.1, the wastewater outfall pipeline originates at the WET plant and runs west through the Pismo/Oceano dunes for two miles to the shoreline and then terminates at a seafloor diffuser located 0.5 mile offshore in State Lands lease PRC 1449.1, at a surveyed depth of approximately 38 feet below mean sea level. The coastline is in a constant state of change, adjusting to the forces of waves, currents, tides, and sediment deposition. These forces create a flow of sand along the coastline known as littoral drift. Littoral drift generally flows southward along the California coast. The amount of sand present at a beach remains in equilibrium only when the amount of sand deposited is equal to the amount of sand washed away. Since the forces controlling the deposition and removal of sand rarely balance each other exactly, the coastline is almost always in a dynamic state of either recession or advancement (County 1999).

Sandy beaches are formed largely by the weathering of inland rocks and the transport of sediment to the sea by rivers and streams. The amount of sand on the beach also varies with the seasonal changes in wave action. For example, during winter months when wave activity is increased, waves striking the beach strip away accumulated sand. Conversely, in summer months which have low to moderate wave activity, sand tends to accumulate, resulting in a wider sandy beach. Long-term advancement or erosion of beaches is affected by long-term weather patterns as well as changes in sediment transport caused by human intervention. Manmade shore protection devices can also affect shoreline changes (County 1999).

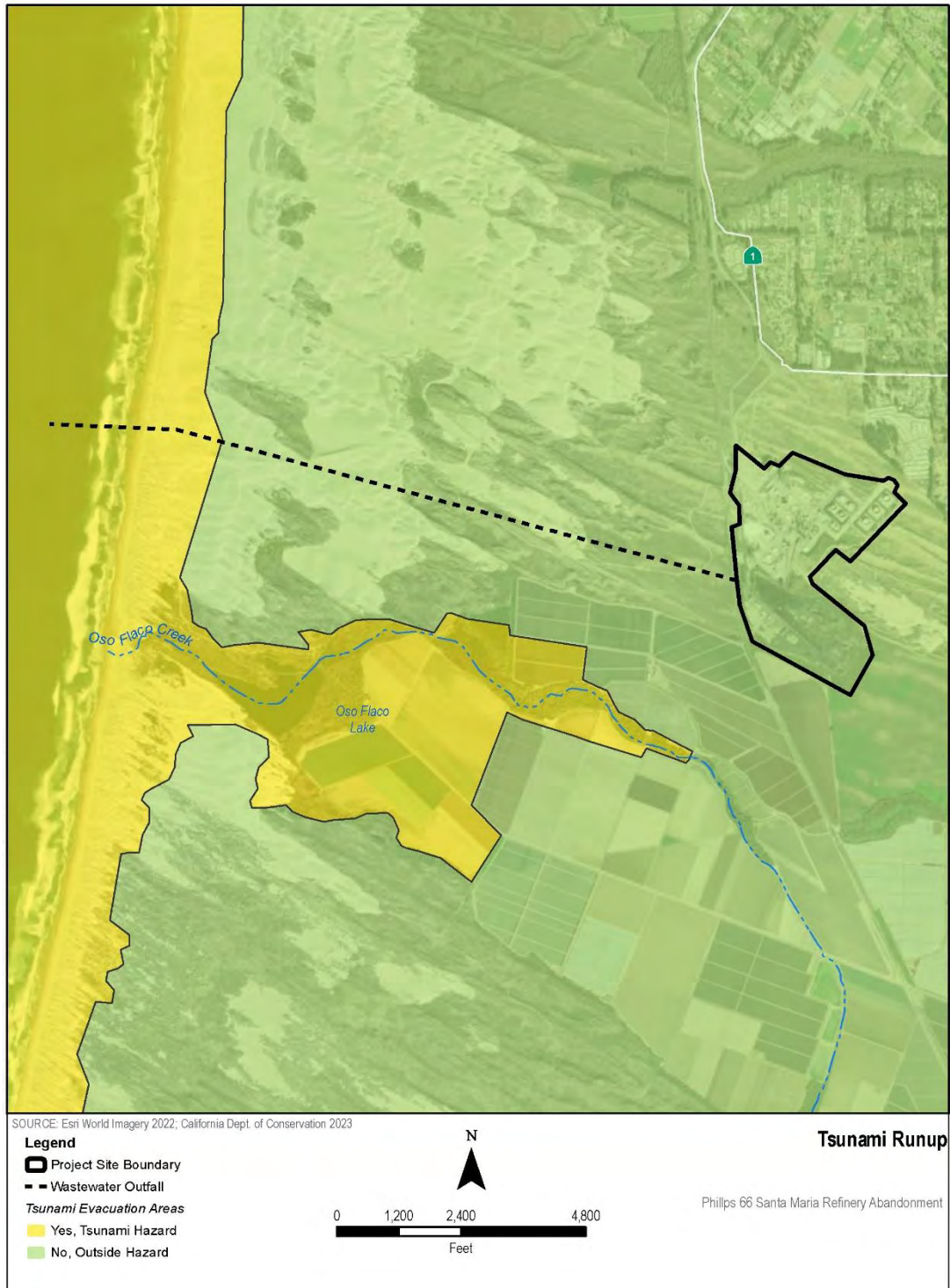
As discussed in more detail in Section 4.18, Other Considerations, rising sea levels are expected to increase storm flooding, coastal erosion, tidal inundation, submergence of nearshore lands, groundwater rise, and seawater intrusion (CCC 2021; CNRA OPC 2018). The best available science currently offers probabilities of specific sea level projections at various tide gauges that are used to inform planning decisions along the California coast. These probabilities are based on observations, global climate models, and expert opinion, and consider a range of sea level rise (SLR) projections due to uncertainty in future greenhouse gas emissions and local changes in land elevations.

Tsunami runup and associated wave scour in the vicinity of the wastewater outfall pipeline (Figure 4.7-5) could similarly expose the outfall, resulting in pipeline damage.

Based on the impact methodology described in Section 4.7.4, although the wastewater outfall would be subject to potential exposure and damage over the long-term (conservatively through 2100, see Section 4.18, Other Considerations) due to tsunami runup, SLR (see Section 4.18), and associated wave scour, geology and soils impacts would only be considered significant in the event that the wastewater outfall pipeline results in soil erosion, topographic changes, loss of topsoil, or unstable soil conditions as a result of the Project. Unlike a seawall or rock revetment, which can cause a loss of beach sand and narrowing of the beach due to wave energy reflection, the presence of a single 12-inch- to 14-inch-diameter wastewater outfall would not result in adverse impacts to natural beach sand replenishment and sand migration processes.

4.7 Geology and Soils

Figure 4.7-5 Tsunami Runup Hazards



Source: CDOC 2023

If exposed, the outfall pipeline exposure would likely occur during periods of high surf, high tides, and associated intense wave scour during the winter months. Conversely, the outfall pipeline may

be covered during the summer months when swells are generally smaller at Pismo Beach and sand accretion generally occurs along the shoreline.

As discussed for impact GEO.1, for the purposes of this analysis, it is assumed that the outfall pipeline would be empty and capped following SMR demolition and remediation completion. Therefore, any potential rupture of the outfall pipeline would not result in the release of any substances that might result in adverse environmental impacts. Phillips 66 or any successors-in-interest would be required, under the terms of the lease with the State Lands Commission, to continue to inspect and maintain the pipeline within the easement. Any future users of the outfall pipeline would be subject to additional CEQA review with respect to potential spills from the outfall pipeline. Regardless of the amount of outfall pipeline exposure due to wave scour, because the outfall pipeline would not cause or exacerbate the potential for soil erosion or unstable soil conditions, impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
GEO.4	Threshold d): Would the Project potentially include structures located on expansive soil?	Class III

The Project does not include any new construction. The Project involves demolition of the SMR and remediation of underlying contaminated soil. Soil expansion generally occurs in clay rich soils as a result of wetting of the soil. The soil subsequently contracts when dry, resulting in widespread cracking of the soil. This alternating sequence of soil expansion and contraction can result in damage to overlying foundations and related infrastructure. However, the SMR and associated wastewater outfall pipeline are located on poorly graded (similar grain size) dune sands with limited thin interbeds of silt and clay (Figure 4.7-2). As a result, the potential for clay-rich expansive soils beneath the remnant wastewater outfall pipeline is low. Regardless, although it is possible that the outfall pipeline could be damaged in the future because of expansive soils, as described in Section 4.7.4, impacts on the geologic environment would not occur as a result of leaving the outfall in-place and impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
GEO.5	Threshold e): Would the Project be inconsistent with the goals and policies of the County’s Safety Element relating to geologic and seismic hazards?	Class III

The County’s General Plan Safety Element provides measures for evaluation of geologic hazards and geotechnical requirements related to new construction to reduce the potential for loss of life and reduce the amount of property damage. The goals and policies related to geologic and seismic hazards include measures related to new construction and faulting, ground shaking, liquefaction, settlement, slope stability, landslides, and coastal bluff erosion. Because the Project would not involve new construction, these goals and policies would not apply to the Project. Project impacts would be **less than significant (Class III)**.

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Impact #	Impact Description	Residual Impact
GEO.6	Threshold f): Would the Project not preclude the future extraction of valuable mineral resources?	Class III

MRZ-2 areas, which are areas with a high likelihood for the occurrence of significant mineral resources, have been mapped by the CGS in combination with areas having current land uses deemed compatible with potential mining. The closest such area to the Project site is located approximately 0.6 mile southeast of the Project site. In addition, the Project site is not located in an Energy or Extractive Resource Area (EX) or Extractive Resource Area (EX-1). The closest aggregate production areas, which are designated EX-1 areas, are located approximately three miles southwest and six miles southeast of the Project site, respectively, along the Santa Maria River. As a result, the Project would not preclude the future extraction of valuable mineral resources and impacts are considered **less than significant (Class III)**.

4.7.6 Mitigation Measure Impacts to Other Issue Areas

As no mitigation measures are proposed for geology and soils, there would not be any impact from the mitigation measures on other issue areas.

4.7.7 Cumulative Impacts

The Project would not include any new construction. Therefore, cumulative projects involving construction, California Department of Transportation (Caltrans) roadway projects, and various northern Santa Barbara County projects (see Table 3.1) would have no cumulative impact regarding geologic hazards, such as faulting, seismicity, and slope stability. In addition, geologic hazard impacts at development sites are typically site-specific and do not combine to create cumulatively considerable impacts.

Soil remediation for cumulative projects at the SMR has already been completed (NIWS site); therefore, potential erosion-related impacts at these SMR remediation projects would not overlap temporally with potential erosion impacts associated with the Project.

With respect to cumulative mineral resources impacts, as discussed under impact GEO.6, the Project would not preclude future extraction of valuable mineral resources. As a result, the Project would not contribute to any potential cumulative mineral resource related impacts associated with construction within the Oceano Dunes State Vehicular Recreation Area (ODSVRA) and various northern Santa Barbara County projects. Cumulative mineral resource related impacts would not be cumulatively considerable.

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4.8 Greenhouse Gas Emissions

This section describes and identifies greenhouse gas (GHG) impacts of the Project. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition of aboveground infrastructure and remediation of the site, followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

Emission calculations and modeling results are included in Appendix C.

4.8.1 Environmental Setting

Global climate change is a change in the average weather of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. Historical records have shown that temperature changes have occurred in the past, such as during previous ice ages. Some data indicate that the current temperature record differs from previous climate changes in rate and magnitude.

The United Nations Intergovernmental Panel on Climate Change (IPCC) developed several emission projections which attempted to estimate quantities of global GHGs that, if stayed at or below, would potentially result in stabilization of global temperatures, with the intent of minimizing global climate change impacts from human activities. The 2023 IPCC report concluded that a stabilization of GHGs at 400 to 450 parts per million (ppm) carbon dioxide-equivalent concentration is required to keep global mean temperature warming below two degrees Celsius (°C), which is assumed to be necessary to avoid additional climate change.

Potential health effects from global climate change may arise from temperature increases, climate-sensitive diseases, extreme events, and air quality. There may be direct temperature effects through increases in average temperature leading to more extreme heat waves and less extreme cold spells. Those living in warmer climates are likely to experience more stress and heat-related problems (i.e., heat rash and heat stroke). In addition, climate sensitive diseases may increase, such as those spread by mosquitoes and other disease carrying insects. Those diseases include malaria, dengue fever, yellow fever, and encephalitis. Extreme events such as flooding and hurricanes can displace people and agriculture, which would have negative consequences. Drought in some areas may increase, which would decrease water and food availability. Global climate change may also exacerbate air quality problems from increased frequency of exceeding criteria pollutant ambient air quality standards.

GHGs are defined as any gas that absorbs infrared radiation in the atmosphere, including water vapor, carbon dioxide (CO₂), methane (CH₄), nitrous oxide (N₂O), sulfur hexafluoride (SF₆), and

4.8 Greenhouse Gas Emissions

fluorocarbons. GHGs lead to the trapping and buildup of heat in the atmosphere near the earth's surface, commonly known as the "greenhouse effect". The accumulation of GHGs in the atmosphere regulates the earth's temperature.

GHGs have varying global warming potential (GWP). The GWP is the potential of a gas or aerosol to trap heat in the atmosphere. Since GHGs absorb different amounts of heat, a common reference gas (CO₂) is used to relate the amount of heat absorbed to the amount of gas emissions, referred to as the "CO₂ equivalent" (CO₂e). The GWP is used to quantify GHG emissions by multiplying the different GWP of each GHG pollutant by the mass of that pollutant to arrive at a CO₂e mass. The GWP of CO₂ is defined as one, whereas the GWP of CH₄, for example, is 25 (meaning that CH₄ absorbs 25 times as much heat, and therefore has a 25 times greater impact on global warming per pound of emissions, as CO₂), and the GWP of nitrogen dioxide is 298 (as per IPCC).

Water vapor is the most abundant and variable GHG in the atmosphere and maintains a climate necessary for life. The main source of water vapor is evaporation from the oceans (approximately 85 percent). Other sources include evaporation from other water bodies, sublimation (change from solid to gas) from ice and snow, and transpiration from plant leaves (AEP 2007).

Carbon dioxide is an odorless, colorless GHG. Natural sources of CO₂ include decomposition of dead organic matter; respiration of bacteria, plants, animals, and fungi; evaporation from oceans; and volcanic outgassing. Anthropogenic (human-caused) sources of CO₂ include burning of fuels, such as coal, oil, natural gas, and wood. The atmospheric global average CO₂ concentration in 2022 was 417.1 ppm with levels increasing from 401 ppm in 2015 and 369 ppm in 2000 with a growth rate of between two to three ppm per year since 2012 (NOAA 2023).

Methane gas is the primary component of natural gas used in homes; as discussed above, it has a GWP of approximately 25. Natural sources of CH₄ arise from the decay of organic matter and from geological deposits known as natural gas fields, from which CH₄ is extracted for fuel. Sources of decaying organic material include landfills and manure.

Nitrous oxide is a colorless gas with a GWP of approximately 298 and is produced by microbial processes in soil and water, including reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes (nylon production, nitric acid production) also emit N₂O. It is used in rocket engines, as an aerosol spray propellant, and in race cars. During combustion, NO_x (NO_x is a generic term for mono-nitrogen oxides, NO and NO₂) is produced as a criteria pollutant (see above) and is not the same as N₂O. Very small quantities of N₂O may be formed during fuel combustion by reaction of nitrogen and oxygen (API 2004).

Chlorofluorocarbons (CFCs) are gases formed synthetically by replacing all hydrogen atoms in CH₄ or ethane with either chlorine and/or fluorine atoms. CFCs are nontoxic, nonflammable, insoluble, and chemically nonreactive in the troposphere (the level of air at the earth's surface). CFCs were first synthesized in 1928 for use as refrigerants, aerosol propellants, and cleaning solvents. CFCs destroy stratospheric ozone (O₃); therefore, legal production was stopped under the Montreal Protocol. Hydrofluorocarbons (HFCs) are synthetic man-made chemicals that are used as a substitute for CFCs in automobile air conditioners and refrigerants. Perfluorocarbons (PFCs) are used in aluminum production and in the semiconductor manufacturing industry. In general, fluorocarbons have a GWP of between 12 and 14,800.

Sulfur hexafluoride is an inorganic, odorless, colorless, nontoxic, nonflammable gas which has the highest GWP of any gas at 22,800. Sulfur hexafluoride is used for insulation in electric power transmission and distribution equipment, in the magnesium industry, in semiconductor manufacturing, and as a tracer gas for leak detection.

Ozone is a GHG; however, unlike the other GHGs, O₃ in the troposphere is relatively short-lived and therefore is not global in nature. According to the California Air Resources Board (CARB), it is difficult to make an accurate determination of the contribution of O₃ precursors (NO_x and volatile organic compounds [VOCs]) to global warming (CARB 2006).

Table 4.8.1 shows a range of gases that contribute to GHG warming with their associated GWP. The table also shows their estimated lifetime in the atmosphere and the range in GWP over 100 years.

Table 4.8.1 Global Warming Potential of Various Gases

Gas	Life in the Atmosphere (years)	100-year GWP (average)
Carbon Dioxide (CO ₂)	50–200	1
Methane (CH ₄)	12	25
Nitrous Oxide (N ₂ O)	120	298
HFCs	1.5–264	12–14,800
Sulfur Hexafluoride (SF ₆)	3,200	22,800
Others (CFCs, PFCs, HFEs, HCFEs, Other Fully Fluorinated GHGs, Fluorinated Formates, Fluorinated Acetates, Carbonofluoridates, Fluorinated Alcohols, HCFCs, Ethers, Aldehydes, Ketones, Fluorotelomer Alcohols)	Varies	0.004–17,700

Note: HFEs = hydrofluoroethers; HCFEs = hydrochlorofluoroethers; and HCFCs = hydrochlorofluorocarbons.
Source: U.S. EPA 2021

Impacts of GHG Emissions

Global climate change is a change in the average climate variability of the earth, which can be measured by wind patterns, storms, precipitation, and temperature. Historical records have shown that dramatic temperature changes have occurred in the past, such as during previous ice ages. Data indicates that the current temperature record differs from previous climate changes in both rate and magnitude (IPCC 2023; the most recent IPCC Assessment Report [AR6]). These changes in climate could lead to alterations in weather phenomena and melting of land ice, resulting in an increase of sea levels leading to coastal flooding. Human activities, principally through emissions of GHGs, have unequivocally caused global warming, with global surface temperature reaching 1.1°C above 1850–1900 in 2011–2020 (IPCC 2023). Global surface temperature has increased faster since 1970 than in any other 50-year period over at least the last 2000 years. The issue of how best to respond to climate change and its effects is currently one of the most widely debated economic and political issues in the United States.

CARB (2017) notes that a warming California climate would contribute to wildfires, coastal erosion, disruption of water supply, threats to agriculture, spread of insect-borne diseases, and

4.8 Greenhouse Gas Emissions

continuing health threats from air pollution. With exposure to warm temperatures and sunlight, anthropogenic ozone reacts more readily with ozone-forming pollutants, NO_x, and volatile organic compounds (VOCs). Therefore, an increase in the number of warmer days and average temperatures results in higher levels of ozone. The risk of wildfire is dependent on a variety of factors, including presence and flammability of vegetation, soil moisture content, and temperature, all of which are directly or indirectly tied to climate variability—i.e., warmer days mean less rain and drier soils and vegetation. Furthermore, warmer and drier conditions allow fire to spread rapidly, making containment more difficult and resulting in hazardous air conditions. Continuing increases in global GHG emissions at business-as-usual (BAU) rates would result, by late in the century, in California losing 90 percent of the Sierra Nevada snowpack, sea level rising by more than 20 inches, and a three- to fourfold increase in heat wave days.

In the Findings and Declarations for Assembly Bill (AB) 32, the State legislature found that:

The potential adverse impacts of global warming include the exacerbation of air quality problems, a reduction in quality and supply of water to the state from the Sierra snowpack, a rise in sea levels resulting in the displacement of thousands of coastal businesses and residences, damage to the marine ecosystems and the natural environment, and an increase in the incidences of infectious diseases, asthma, and other health-related problems.

Warming of the climate system is unequivocal, and many of the changes now being observed from the 1950s to present day are unprecedented over decades to millennia. The atmosphere and ocean have warmed, the amounts of snow and ice have diminished, and sea level has risen (IPCC 2023). The linear warming trend over the years from 1951 to 2012 (0.2 degrees Fahrenheit [°F] per decade) is nearly twice that for the 100 years from 1906 to 2005. Over the period 1901 to 2018, global mean sea level increased by eight inches (IPCC 2023).

The IPCC studies indicate that:

In order to stabilize the concentration of GHGs in the atmosphere, emissions would need to peak and decline thereafter. The lower the stabilization level, the more quickly this peak and decline would need to occur.

The studies also found that stabilization of atmospheric CO₂ concentrations at less than 450 ppm would limit temperature rise to less than 3.6 °F by the year 2100 and would require global anthropogenic CO₂ emissions to drop below year 1990 levels within a few decades (by 2020). If GHG emissions, and atmospheric CO₂ levels, were to be kept to this "low" or "Category 1" level, impacts to gross domestic product (GDP) would be projected to "produce benefits in some places and sectors while, at the same time, imposing costs in other places and sectors" (IPCC 2007, 2014). Higher levels of CO₂ could cause a reduction in global GDP of more than five percent, with substantially higher regional losses. Scenarios that are likely to maintain warming at below 3.6 °F are characterized by a 40 to 70 percent reduction in GHG emissions by 2050, relative to 2010 levels, and an emissions level near zero or below in the year 2100.

Therefore, stabilizing GHG emissions levels at 1990 levels over the next two decades and reducing GHG emissions by 50 to 85 percent by the year 2050 would reduce the impacts of climate change

to "Category 1" levels that would produce nominal changes in global average GDP and would be less than significant.

4.8.1.1 Regional Setting

Fossil fuel combustion is responsible for the vast majority of GHG emissions in the United States, with CO₂ being the primary GHG. In 2021, U.S. GHG emissions totaled 6,348 million metric tons of carbon dioxide equivalent (MMTCO₂e). This 2021 total represents a 2.0 percent decrease since 1990. GHG emissions peaked at 7,351 MMTCO₂e in 2007. From 2019 to 2020, there was a sharp decline in emissions largely due to the impacts of the coronavirus (COVID-19) pandemic on travel and other economic activity. Between 2020 and 2021, the increase in total GHG emissions was driven largely by an increase in CO₂ emissions from fossil fuel combustion due to economic activity rebounding after the COVID-19 pandemic (U.S. EPA 2023).

To quantify the emissions associated with electrical generation, the resource mix for a particular area must be determined. The resource mix is the proportion of electricity that is generated from different sources. Electricity generated from coal or oil combustion produces greater GHG emissions than electricity generated from natural gas combustion due to the higher carbon content of coal. Electricity generated from wind turbines, hydroelectric dams, or nuclear power is assigned zero GHG emissions. Although these sources have some GHG emissions associated with the manufacturing of the wind generators, the mining and enrichment of uranium, and the displacement of forest areas for reservoirs, these emissions have not been included in the lifecycle analysis for wind turbines, hydroelectric dams, and nuclear power because they are assumed to be relatively small compared to the electricity generated.

Pacific Gas and Electric Company (PG&E), which supplies electricity to the Project area, receives 38 percent of electricity from renewables, 8 percent from large hydro, and 49 percent from nuclear (PG&E 2023). As per CalEEMod, the GHG emission rate of PG&E is 206 lb CO₂e/MWh.

Statewide Greenhouse Gas Emissions

With a population of approximately 39 million (U.S. Census Bureau 2022), California is the most populous state in the United States. In 2020, California produced 369 MMTCO₂e of GHG emissions (CARB 2023). Table 4.8.2 delineates California's GHG emissions for the years 2014 through 2020.

County of San Luis Obispo Greenhouse Gas Emissions

The County of San Luis Obispo (County) EnergyWise Plan 2016 Update (County 2016) provides information on communitywide GHG emissions and government operations GHG emissions. These are summarized in Table 4.8.3.

4.8.1.2 Historical Emissions from Refinery Operations

Historical Santa Maria Refinery (SMR) activities and operations have produced impacts associated with GHG emissions, criteria pollutant emissions (see Section 4.3, Air Quality) and emissions of toxic materials (also Section 4.3).

4.8 Greenhouse Gas Emissions

Table 4.8.2 California GHG Emissions Inventory (MMTCO₂e per Year)

Source Category	2014	2015	2016	2017	2018	2019	2020
Transportation	157.7	161.5	165.2	166.6	165.3	162.4	135.8
Electric Power	89.8	86.0	70.4	64.2	65.0	60.2	59.5
Industrial	85.2	83.2	81.6	81.7	81.9	80.4	73.3
Commercial & Residential	35.6	36.3	37.2	37.6	37.4	40.5	38.7
Agriculture	33.9	32.6	32.2	31.7	32.2	31.4	31.6
High GWP	17.7	18.6	19.4	20.1	20.5	20.7	21.3
Recycling & Waste	8.3	8.4	8.5	8.6	8.7	8.8	8.9
Total	428.2	426.6	414.5	410.5	411.0	404.4	369.1

Notes: High global warming potential gases are primarily HFC and SF₆.

HFC = hydrofluorocarbons; MMTCO₂e = million metric tons of carbon dioxide equivalent; SF₆ = sulfur hexafluoride

Source: CARB 2023

Table 4.8.3 2006 and 2013 County GHG Emissions by Source

Source Category	2006	2013	Difference	
			MTCO ₂ e/yr	Percent
Government Operations	19,106	19,124	18	0.1%
Solid waste	29,027	25,196	-3,831	-13.2%
Residential Energy	137,148	136,883	-265	-0.2%
Non-residential Energy	187,355	182,728	-4,627	-2.5%
Transportation and Mobile	1,530,827	1,412,580	-118,247	-7.7%
Total	1,903,463	1,776,511	-126,952	-6.7%

Note: MTCO₂e/yr = metric tons of carbon dioxide equivalent per year

Source: County 2016

Santa Maria Refinery GHG Emissions

Historical operations at the SMR produced GHG emissions associated with a range of equipment types and operations, including:

- Combustion sources, including diesel pumps and compressors, heaters, boiler, generators, incinerators, and flares (emergency use only);
- Fugitive emissions of methane from pumps, valves, and connections;
- Fugitive emissions of methane from hydrocarbon tanks; and
- Other miscellaneous sources, including solvent use, oily water treatment, cooling towers, and sulfur pit vents.

The SMR reports emissions from these sources to the San Luis Obispo County Air Pollution Control District (SLOCAPCD) annually. Table 4.8.4 summarizes the emissions for these sources

for the operations of the SMR for the last five years prior to application submittal (see Chapter 2.0, Project Description).

Table 4.8.4 SMR Facility On-site Historical GHG Emissions

Data Year	N ₂ O	CH ₄	CO ₂	CO ₂ e
	Metric tons			
2017	0.8	9.0	234,622	235,089
2018	0.6	11.2	202,130	202,598
2019	0.7	11.2	208,044	208,539
2020	0.6	10.4	186,511	186,961
2021	0.5	9.3	152,742	153,138
Average 5 years	0.7	10.2	196,810	197,265

Source: SLOCAPCD CEIRS reports, as reported by Phillips 66

Off-site criteria emissions include the emissions from vehicles used to transport employees and from vehicles used to transport coke, sulfur, and other materials delivered to or exported by the SMR. These emissions include:

- Emissions from trucks and trains used to transport coke;
- Emissions from trucks used to transport sulfur;
- Emissions from trucks associated with normal materials shipments and employee duties;
- Emissions from trains moving materials; and
- Emissions from employee vehicles.

Estimated GHG emissions from off-site vehicle trips associated with direct Refinery operations, including trucks and rail trips within California, total 4,979 MTCO₂e per year.

The SMR also uses electricity from the PG&E grid. Historical uses of grid electricity total about 88 percent of the electricity used at the SMR, with the remaining generated on site. Use of grid electricity produces about 3,346 MTCO₂e per year using the CalEEMod GHG emission factors for PG&E.

4.8.2 Regulatory Setting

This subsection summarizes the international, federal, state, and local laws, regulations, and standards that address climate change and GHG emissions as applies to the Project.

4.8.2.1 International Regulations

Kyoto Protocol

The Kyoto Protocol is a treaty made under the United Nations Framework Convention on Climate Change (UNFCCC), which was signed on March 21, 1994. The UNFCCC was the first international agreement to regulate GHG emissions. It has been estimated that if the commitments outlined in the Kyoto Protocol are met, global GHG emissions would be reduced by an estimated

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five percent from 1990 levels during the first commitment period from 2008 until 2012. However, while the U.S. is a signatory to the Kyoto Protocol, Congress has not ratified it; therefore, the U.S. is not bound by the Protocol's commitments.

Paris Agreement

At the 2015 United Nations Conference of the Parties (COP21) in Paris, France, Parties to the UNFCCC reached an agreement to combat climate change. The Paris Agreement's central aim is to strengthen the global response to the threat of climate change by keeping a global temperature rise this century to below 2 °C above pre-industrial levels, and to pursue efforts to limit the temperature increase to 1.5 °C. The Paris Agreement requires all Parties to put forward their best efforts through "nationally determined contributions". As of the end of 2019, 187 Parties have ratified the Agreement, out of the 197 Parties who attended the Convention. The U.S. withdrew from the Paris Agreement in November 2019; however, the U.S. rejoined the Paris Agreement in February 2021.

COP28 UAE 2023

The 28th Conference of the Parties of the United Nations Framework Convention on Climate Change, COP28 UAE, was held in 2023 in Dubai, United Arab Emirates. The conference addressed past and additional commitments to keep planet warming to less than 1.5 °C.

Climate Change Technology Program

In lieu of the Kyoto Protocol's mandatory framework, the U.S. has opted for a voluntary and incentive-based approach toward emissions reductions, known as the Climate Change Technology Program. This program is a multi-agency research and development coordination effort, led by the Secretaries of Energy and Commerce, who are charged with carrying out the President's National Climate Change Technology Initiative.

Intergovernmental Panel on Climate Change

The IPCC is the United Nations body for assessing the science related to climate change. They issue periodic detailed and extensive reports on climate change, including modeled estimates of temperature changes as a function of different climate change emission levels. Their most recently completed report is the Synthesis Report for the Sixth Assessment Report released in March 2023. The Synthesis Report is the last of the Sixth Assessment Report products. The Sixth Assessment Report, AR6 Climate Change 2021: The Physical Science Basis, was released in August 2021.

4.8.2.2 Federal Regulations

Clean Air Act

In the past, the United States Environmental Protection Agency (U.S. EPA) has not regulated GHGs under the Clean Air Act (CAA). However, in 2007 the U.S. Supreme Court held that the U.S. EPA can, and should, consider regulating motor-vehicle GHG emissions. In *Massachusetts v. Environmental Protection Agency*, 12 states and cities, including California, in conjunction with several environmental organizations sued to force the U.S. EPA to regulate GHGs as a pollutant pursuant to the CAA (U.S. Supreme Court No. 05-1120; 127 S.Ct. 1438 [2007]). The Court ruled that GHGs fit within the CAA definition of a pollutant and that the U.S. EPA's reason for not regulating GHGs was insufficiently grounded.

40 Code of Federal Regulations (CFR) Part 98 specifies mandatory reporting requirements for several industries including certain downstream facilities that emit GHGs and to certain upstream suppliers of fossil fuels and industrial GHGs. For suppliers, the GHG emissions reported are the emissions that would result from combustion or use of the products supplied. The rule also includes provisions to ensure the accuracy of emissions data through monitoring, recordkeeping, and verification requirements. The mandatory reporting requirements generally apply to facilities that produce more than 25,000 MTCO_{2e} (or 10,000 MTCO_{2e} for combustion and process source emissions).

4.8.2.3 State Regulations

Assembly Bill 1493

In 2002, the California legislature declared in AB 1493 (the Pavley regulations) that global warming was a matter of increasing concern for public health and the environment in the state. It cited several risks that California faces from climate change, including reduction in the state's water supply; increased air pollution due to higher temperatures; harm to agriculture, and increase in wildfires; damage to the coastline; and economic losses caused by higher food, water, energy, and insurance prices. Furthermore, the legislature stated that technological solutions for reducing GHG emissions would stimulate California's economy and provide jobs. Accordingly, AB 1493 required CARB to develop and adopt the nation's first GHG emission standards for automobiles. CARB responded by adopting CO₂-equivalent fleet average emission standards. The standards would be phased in from 2009 to 2016, reducing emissions by 22 percent in the "near term" (2009 to 2012) and 30 percent in the "mid-term" (2013 to 2016), as compared to 2002 fleets.

The legislature passed amendments to AB 1493 in September 2009. Implementation of AB 1493 requires a waiver from the U.S. EPA, which was granted in June 2009.

Additional measures passed by the Legislature, Resolution 18-35 in September 2018, in response to notices of intended rulemaking by the National Highway Transportation Safety Administration (NHTSA) and the U.S. EPA to weaken automobile fuel economy standards, adopted amendments to sections 1961.2 and 1961.3, Title 13 California Code of Regulations (CCR) to ensure continued implementation of the more stringent automobile standards through the year 2025.

Executive Order S-3-05

The 2005 California Executive Order S-3-05 established the following GHG emission-reduction goals for California:

- By 2010, reduce GHG emissions to 2000 levels;
- By 2020, reduce GHG emissions to 1990 levels; and
- By 2050, reduce GHG emissions to 80 percent below 1990 levels.

The Secretary of the California Environmental Protection Agency (CalEPA) is charged with coordinating oversight of efforts to meet these targets and formed the Climate Action Team to carry out the Executive Order. Emission reduction strategies or programs developed by the Climate Action Team to meet the emission targets. The Climate Action Team also provided strategies and input to the CARB Scoping Plan.

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Assembly Bill 32

AB 32 codifies California's GHG 2020 emissions goal by requiring the state to reduce global warming emissions to year 1990 levels by 2020. It further directs CARB to enforce the statewide cap that began phasing by 2012. AB 32 was signed and passed into law by Governor Arnold Schwarzenegger on September 27, 2006. Key milestones of AB 32 include:

- June 20, 2007 – Identification of “discrete early action GHG emission-reduction measures”;
- January 1, 2008 – Identification of the 1990 baseline GHG emissions levels and approval of a statewide limit equivalent to that level. Adoption of reporting and verification requirements concerning GHG emissions;
- January 1, 2009 – Adoption of a scoping plan for achieving GHG emission reductions;
- January 1, 2010 – Adoption and enforcement of regulations to implement the actions;
- January 1, 2011 – Regulatory adoption of GHG emission limits and reduction measures; and
- January 1, 2012 – GHG emission limits and reduction measures become enforceable.

Since the passage of AB 32, CARB published the Proposed Early Actions to Mitigate Climate Change in California. This publication indicated that the issue of GHG emissions in the California Environmental Quality Act (CEQA) and General Plans was being deferred for later action, so the publication did not discuss any early action measures generally related to CEQA or to land use decisions.

AB 32 addresses the results of these studies conducted by the IPCC (IPCC 2007, 2014, 2023) that examined a range of scenarios estimating an increase in globally averaged surface temperature and ocean rise by 2100 due to human causes.

Senate Bill 1368

In 2006, the California legislature passed Senate Bill (SB) 1368, which requires the California Public Utilities Commission (CPUC) to develop and adopt a “greenhouse gases emission performance standard” by March 1, 2007, for private electric utilities under its regulation. The CPUC adopted an interim standard on January 25, 2007, requiring that all new long-term commitments for base load generation involve power plants that have emissions no greater than a combined cycle gas turbine plant. That level was established at 1,100 lbs/MWh of CO₂. The California Energy Commission has also adopted similar rules.

Senate Bill 97 – CEQA: Greenhouse Gas Emissions

In August 2007, Governor Schwarzenegger signed into law SB 97 – CEQA: Greenhouse Gas Emissions with the purpose of expanding a coordinated policy for reducing GHG emissions under the CEQA framework by developing guidelines on how state and local agencies should analyze, and when necessary, mitigate GHG emissions. Specifically, SB 97 required the Office of Planning and Research (OPR), by July 1, 2009, to prepare, develop, and transmit to the Resources Agency guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions, as required by CEQA, including, but not limited to, effects associated with transportation or energy consumption. OPR would be required to periodically update the guidelines to incorporate new information or criteria established by CARB pursuant to the California Global Warming Solutions

Act of 2006. SB 97 also identifies a limited number of types of projects that would be exempt under CEQA from analyzing GHG emissions.

On January 7, 2009, OPR issued its draft CEQA guidelines revisions pursuant to SB 97. On March 16, 2010, the Office of Administrative Law approved the Amendments, and filed them with the Secretary of State for inclusion in the CCR. The Amendments became effective on March 18, 2010.

California Air Resources Board: 2008 Scoping Plan

On December 11, 2008, CARB adopted the Scoping Plan as directed by AB 32 which proposes a set of actions designed to reduce overall GHG emissions in California. Measures identified in the Scoping Plan are being implemented in phases with Early Action Measures that have already been implemented. Measures include a Cap-and-Trade Program, car standards, low carbon fuel standards (LCFS), landfill gas control methods, energy efficiency, green buildings, renewable electricity standards, and refrigerant management programs.

The 2008 Scoping Plan provides an approach to reduce emissions to achieve the 2020 target and to initiate the transformations required to achieve the 2050 target. The 2008 Scoping Plan indicated that a 29 percent reduction below the estimated “business as usual” levels would be necessary to return to 1990 levels by 2020 (CARB 2008).

Executive Order S-03-05 sets a goal that California emit 80 percent less GHGs in 2050 than it emitted in 1990. CARB’s Scoping Plan, including the October 2013 Discussion Draft, provides additional direction and insight as to how it anticipates California would achieve the 2050 reduction goal in Governor Schwarzenegger’s Executive Order S-03-05.

Office of Planning and Research Technical Advisory and Preliminary Draft CEQA Guidelines Amendments for Greenhouse Gas Emissions

Consistent with SB 97, on March 18, 2010, the State CEQA Guidelines were amended to include references to GHG emissions. The amendments offer guidance regarding the steps lead agencies should take to address climate change in their CEQA documents. According to OPR, lead agencies should: (1) determine if GHGs may be generated by a proposed project and, if so, quantify or estimate the GHG emissions by type and source; (2) assess if those emissions are cumulatively significant; and (3) consider the extent to which the project complies with regulations or requirements adopted to implement a statewide, regional, or local plan for the reduction or mitigation of GHG emissions. When assessing whether a project’s effects on climate change are cumulatively considerable or not, even though its GHG contribution may be individually limited, the lead agency must consider the impact of the project when viewed in connection with the effects of past, current, and probable future projects. Lastly, if the lead agency determines that the GHG emissions from a proposed project are potentially significant, it must investigate ways to implement or fund its fair share of a mitigation measure or measures designed to alleviate the cumulative impact.

The Amendments do not identify a threshold of significance for GHG emissions, nor do they prescribe assessment methodologies or specific mitigation measures. The Preliminary Amendments maintain CEQA discretion for lead agencies to establish thresholds of significance based on individual circumstances.

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The guidelines developed by OPR provide the lead agency with discretion in determining what methodology is used in assessing the impacts of GHG emissions in the context of a particular project. This guidance is provided because the methodology for assessing GHG emissions is expected to evolve over time. The OPR guidance also states that the lead agency can rely on qualitative or other performance-based standards for estimating the significance of GHG emissions.

Senate Bill 375 Sustainable Communities and Climate Protection Act of 2008

SB 375 supports the state's climate action goals to reduce GHG emissions through coordinated transportation and land use planning with the goal of more sustainable communities.

Under the Sustainable Communities Act, CARB sets regional targets for GHG emissions reductions from passenger vehicle use. In 2010, CARB established these targets for 2020 and 2035 for each region covered by one of the state's metropolitan planning organizations (MPO). CARB will periodically review and update the targets, as needed.

Each of California's MPOs must prepare a Sustainable Communities Strategy (SCS) as a part of its regional transportation plan (RTP). The SCS contains land use, housing, and transportation strategies that, if implemented, would allow the region to meet its GHG emission reduction targets. The Sustainable Communities Act also establishes incentives to encourage local governments and developers to implement the SCS or an alternative planning strategy (APS). Developers can get relief from certain environmental review requirements under CEQA if their new residential and mixed-use projects are consistent with a region's SCS (or APS) that meets the targets (see Cal. Public Resources Code §§ 21155, 21155.1, 21155.2, 21159.28.).

The Southern California Association of Governments released the 2020–2045 Regional Transportation Plan/Sustainable Communities Strategy in 2020. Goals of the RTP/SCS include 1) reduce GHG emissions and improve air quality; 2) support healthy and equitable communities; 3) adapt to a changing climate and support an integrated regional development pattern and transportation network; and 4) leverage new transportation technologies and data-driven solutions that result in more efficient travel.

Scoping Plan 2011 Re-Approved Scoping Plan

In August 2011, the initial Scoping Plan was re-approved by CARB and includes the Final Supplement to the Scoping Plan Functional Equivalent Document. In the 2011 re-approved Scoping Plan, CARB updated the projected BAU emissions based on current economic forecasts (i.e., as influenced by the economic downturn) and GHG-reduction measures already in place. The BAU projection for 2020 GHG emissions in California was originally, in the 2008 Scoping Plan, estimated to be 596 MMTCO_{2e}. CARB subsequently derived an updated estimate of emissions in a 2013 Draft Discussion Document by considering the influence of the recent recession and reduction measures that are already in place. The revision estimates the 2020 emissions at 507 MMTCO_{2e} (as the BAU estimate).

The 2011 Re-Approved Scoping Plan concluded that achieving the 1990 levels by 2020 meant cutting approximately 16 percent, compared to the original 2008 Scoping Plan that estimated a 29 percent reduction (CARB 2011). The 2011 Scoping Plan sets forth the expected GHG emission

reductions from a variety of measures, including the Pavley automobile standards and the Renewables Portfolio Standard (RPS), neither of which were assumed in the 2008 Scoping Plan.

Executive Order B-16-2012

The 2012 California Executive Order B-16-2012 directed that all state entities support and facilitate the rapid commercialization of zero-emission vehicles. The directive ordered state agencies to work with the Plug-in Electric Vehicle Collaborative and the California Fuel Cell Partnership to achieve by 2015 that the state's major metropolitan areas would be able to accommodate zero-emission vehicles, each with infrastructure plans and streamlined permitting, and that by 2020:

- The state's zero-emission vehicle infrastructure would be able to support up to one million vehicles;
- The costs of zero-emission vehicles would be competitive with conventional combustion vehicles;
- Zero-emission vehicles would be accessible to mainstream consumers;
- There would be widespread use of zero-emission vehicles for public transportation and freight transport;
- Transportation sector GHG emissions would be falling as a result of the switch to zero-emission vehicles;
- Electric vehicle charging would be integrated into the electricity grid; and
- The private sector's role in the supply chain for zero-emission vehicle component development and manufacturing would be expanding.

And that by 2025:

- Over 1.5 million zero-emission vehicles would be on California roads, and their market share would be expanding;
- Californians would have easy access to zero-emission vehicle infrastructure;
- The zero-emission vehicle industry would be a strong and sustainable part of California's economy; and
- California's clean, efficient vehicles would annually displace at least 1.5 billion gallons of petroleum fuels.

The Executive Order directs that California target a reduction of GHG emissions from the transportation sector equaling 80 percent less than 1990 levels by 2050; and that California's state vehicle fleet increase the number of its zero-emission vehicles through the normal course of fleet replacement so that at least 10 percent of fleet purchases of light-duty vehicles be zero-emission by 2015 and at least 25 percent of fleet purchases of light-duty vehicles be zero-emission by 2020.

SB 743 Transportation Impacts

SB 743 updates the way transportation impacts are measured in California for new development projects, making sure they are built in a way that allows Californians more options to drive less.

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Starting in 2020, agencies analyzing the transportation impacts of new projects must now look at a metric known as vehicle miles traveled (VMT) instead of level-of-service (LOS). VMT measures how much actual auto travel (additional miles driven) a proposed project would create on California roads. If the project adds excessive car travel onto roads, the project may cause a significant transportation impact.

California Air Resource Board Cap-and-Trade Regulation

CARB has implemented a cap-and-trade type program, as per the AB 32 directed Scoping Plan, applicable to specific industries that emit more than 25,000 MTCO_{2e} annually. The AB 32 Scoping Plan identifies a Cap-and-Trade Program as one of the strategies California will employ to reduce GHG emissions. Under the Cap-and-Trade Program, an overall limit on GHG emissions from capped sectors would be established, and facilities subject to the cap would be able to trade permits (allowances) to emit GHG. The program started on January 1, 2012, with an enforceable compliance obligation beginning with the 2013 GHG emissions from stationary sources. Beginning in 2013, the petroleum and natural gas systems sector is covered for stationary and related combustion, process vents and flare emissions if the total emissions from these sources exceed 25,000 MTCO_{2e} per year. Suppliers of natural gas and transportation fuels were covered beginning in 2015 for combustion emissions from the total volume of natural gas delivered to a non-covered entity or for transportation fuels.

CARB's rationale for adopting a Cap-and-Trade Program was prominently noted by the Court of Appeals' opinion upholding the CARB Scoping Plan as follows:

The final scoping plan explains CARB's rationale for recommending a Cap-and-Trade Program in combination with the so-called "complementary measures" by citing the rationale outlined by the Market Advisory Committee and quoting from the report of the Economic and Technology Advancement Advisory Committee, in part, as follows: "A declining cap can send the right price signals to shape the behavior of consumers when purchasing products and services. It would also shape business decisions on what products to manufacture and how to manufacture them. Establishing a price for carbon and other GHG emissions can efficiently tilt decision-making toward cleaner alternatives. This cap-and-trade approach (complemented by technology-forcing performance standards) avoids the danger of having government or other centralized decision-makers choose specific technologies, thereby limiting the flexibility to allow other options to emerge on a level playing field... Complementary policies would be needed to spur innovation, overcome traditional market barriers...and address distributional impacts from possible higher prices for goods and services in a carbon-constrained world."(AIR 206 Cal.App.4th at p. 1499.)

Cap-and-trade is designed to reduce the emissions from a substantial percentage of GHG sources (approximately 80 percent of GHG emissions would come under the program) within California through a market trading system. The system would reduce GHG emissions by reducing the available GHG "allowances" over time in the original bill up until the year 2020. In December 2018, the legislature adopted amendments to the Cap-and-Trade Program that set major market rules after 2020 until 2030.

Facilities are required to obtain an "allowance," either through purchasing on auction or through freely allocated "industry assistance" allowances from CARB, for each MTCO_{2e} of GHG they emit.

CARB issues the “industry assistance” allocations for free for a number of industries. These are based, in part, on a predefined “benchmark” of GHG emissions per unit of production. For the crude oil production sector, allowances are provided as a function of the amount of crude oil produced, thereby establishing, in effect, a level of efficiency in regard to GHG emissions for that sector. Other sectors are also allocated allowances based on their own respective activities.

If an operation within the sector operates less efficiently than the specified benchmark, thereby receiving an insufficient number of “free” allowances to cover their emissions, implementation of efficiency improvements or the purchase of additional allowances from the CARB auction would be required. Some availability of “offsets” is also included in the program, which can be obtained from specific, allowable offset programs, such as GHG reduction projects related to forestry, livestock, mine methane capture and ozone-depleting chemicals. Offsets outside of these options are not allowed at this time.

The first group of sectors began trading in allowances in 2012. That group includes the oil and gas sector and most stationary sources. A second group began the program in 2015, which included the transportation fuels sector.

For subsequent periods after the initial 2013 period, allowances are planned to be distributed freely through the “industry assistance” program or auctioned off. Industry assistance allowances would decrease each year in accordance with a “cap adjustment factor.” The total allowances allowed to be allocated each year (either freely allocated or auctioned) are limited by the defined allowance budget, which decreases each year.

An operator is required to participate in the Cap-and-Trade Program if its facility emits more than 25,000 MTCO_{2e} annually. Annual reporting of GHG emissions is required under the CARB Mandatory Reporting Regulation (MRR).

As only a limited number of allowances are issued, based on the original emissions estimates prepared by CARB, and because these allowances are reduced each year by a given percentage to achieve the goals, operators who commenced operations after the Cap-and-Trade Program went into effect are required to obtain allowances from the given limited pool. Any increase in GHG emissions at a facility would therefore be allowed through a reduction in GHG emissions at some other location, with the net GHG emissions statewide not increasing. This mechanism serves to ensure that the goals of AB 32 are achieved; that emissions statewide are reduced, even if local GHG emissions increase; and that, ultimately, emissions of GHG and atmospheric CO₂ concentrations are stabilized, thereby reducing impacts. This produces, in effect, mitigation for this cumulative impact.

Note that GHG emissions produce no immediate, local health effects (such as criteria pollutants or ozone); therefore, GHG emissions reduced in another county, for example, could be used to offset the GHG emissions occurring at a project site.

Scoping Plan 2014 First Update

AB 32 requires CARB to update the Scoping Plan every five years. CARB approved the first update to the Scoping Plan on May 22, 2014, with recommendations for a mid-term target (between 2020 and 2050) and sector-specific actions. The First Update addresses issues such as a

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revision to the GWP for gases (to a 20-year instead of the 100-year timeframe), the establishment of a mid-term 2030 goal (of between 33–40 percent reduction over 1990 levels), and the development of post-2020 emissions caps related to cap-and-trade to reflect the establishment of a 2030 midterm target. This first revision also provides an update on climate science and a report on progress toward the 2020 target, including achievements of the 2008 and 2011 Scoping Plans, an update on the inventory of GHG emissions, and an update of the economy and its potential effect on future emissions' forecasting. It also addresses post-2020 goals, including Executive Order S-03-05. The 2014 Scoping Plan Update concluded that achieving the 1990 levels by 2020 meant cutting approximately 15.3 percent, compared to the original 2008 Scoping Plan that estimated a 29 percent reduction.

Executive Order B-30-15

Additionally, on April 29, 2015, Governor Brown issued Executive Order B-30-15 establishing “*a new interim statewide greenhouse gas emission reduction target to reduce greenhouse gas emissions to 40 percent below 1990 levels by 2030... in order to ensure California meets its target of reducing greenhouse gas emissions to 80 percent below 1990 levels by 2050.*”

Senate Bill 350

With the Clean Energy and Pollution Reduction Act (SB 350), signed into law on October 7, 2015, California expanded the specific set of objectives to be achieved by 2030, with the following:

- To increase the RPS from 33 percent to 50 percent for the procurement of California's electricity from renewable sources; and
- To double the energy efficiency savings in electricity and natural gas end uses by retail customers.

Senate Bill 32

SB 32 requires that there be a reduction in GHG emissions to 40 percent below the 1990 levels by 2030. The provisions of SB 32 were added to Section 38566 of the Health and Safety Code subsequent to the bill's approval. The bill went into effect January 1, 2017. SB 32 builds onto AB 32 which requires California to reduce GHG emissions to 1990 levels by 2020; SB 32 continues that timeline to reach the targets set in Executive Order B-30-15. SB 32 provides another intermediate target between the 2020 and 2050 targets set in Executive Order S-03-05.

Scoping Plan 2017 Update

CARB updated the Scoping Plan to address the strategy for achieving the 2030 GHG target in November 2017. The plan discusses economically and technically feasible actions for a reduction of 40 percent from 1990 levels of GHG emissions by 2030. The plan notes the path forward includes the ongoing and statutorily programs and the Cap-and-Trade Program along with AB 398 which clarifies the Cap-and-Trade Program including designating the program as the mechanism for reducing GHG emissions from petroleum refineries and oil and gas production in the Scoping Plan. The document concludes the Scoping Plan approach is to strengthen the major programs that have been successful to date and further integrate the efforts to reduce GHG emissions and improve air quality.

Assembly Bill 398 Amending California Global Warming Solutions Act of 2006

AB 398, approved July 17, 2017, amended The California Global Warming Solutions Act of 2006 and extends the Cap-and-Trade Program from January 1, 2012, to December 31, 2030, and provides for a price ceiling and other measures to improve and provide additional banking allowance rules.

Senate Bill 100 California Renewables Portfolio Standard Program

SB 100, introduced in January 2017, would revise the California RPS program to state that the goal of the program is to achieve a 50 percent renewable resources target by December 31, 2026, and to achieve a 60 percent target by December 31, 2030. The bill states that it is the policy of the state that eligible renewable energy resources and zero-carbon resources supply 100 percent of retail sales of electricity to serve California end-use customers and 100 percent of electricity procured to serve all state agencies by December 31, 2045. The bill was signed by the Governor in September 2018.

Short-Lived Climate Pollutant Reduction Strategy

In March 2017 CARB released the Short-Lived Climate Pollutant Reduction Strategy which identified the need to immediately reduce emissions of short-lived climate pollutants (SLCPs), which include black carbon (soot), methane (CH₄), and fluorinated gases (F-gases, including hydrofluorocarbons, or HFCs). The plan outlines goals for reductions by 2030 for black carbon (50 percent), methane (40 percent), and HFCs (40 percent) and emission reduction actions that provide a wide array of climate, health, and economic benefits throughout the state.

Executive Order B-55-18

Governor Jerry Brown signed this Executive Order in September 2018 that sets a new statewide goal to achieve carbon neutrality as soon as possible, and no later than 2045, and achieve and maintain net negative emissions thereafter. This goal supplements the existing statewide targets of reducing GHG emissions.

Assembly Bill 1279

Approved in 2022, AB 1279 requires California to achieve “net zero greenhouse gas emissions” as soon as possible, but no later than 2045, and to achieve and maintain net negative GHG emissions thereafter. It also requires that statewide anthropogenic GHG emissions be reduced to at least 85 percent below 1990 levels.

Scoping Plan 2022 Update

The CARB 2022 Scoping Plan for Achieving Carbon Neutrality (2022 Scoping Plan) lays out a path to achieve targets for carbon neutrality and reduce anthropogenic GHG emissions by 85 percent below 1990 levels no later than 2045, as directed by AB 1279. The actions and outcomes in the plan will achieve significant reductions in fossil fuel combustion by deploying clean technologies and fuels; further reductions in short-lived climate pollutants; support for sustainable development; increased action on natural and working lands to reduce emissions and sequester carbon; and the capture and storage of carbon.

The 2022 Scoping Plan Update assesses progress toward the statutory 2030 target and is designed to meet the state’s long-term climate objectives and support a range of economic, environmental, energy security, environmental justice, and public health priorities (CARB 2022).

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Assembly Bill 1757

AB 1757 is a bill signed into law in 2022 and went into effect January 1, 2023. It calls for the Natural Resources Agency, in collaboration with specified entities including CARB and an expert advisory committee, to determine on or before January 1, 2024, an ambitious range of targets for natural carbon sequestration, and for nature-based climate solutions, that reduce greenhouse gas emissions for 2030, 2038, and 2045 to support state goals to achieve carbon neutrality and foster climate adaptation and resilience.

Status of California GHG Reduction Efforts

The state is required to monitor the effectiveness of the state programs on an annual basis. According to the state report card for 2021 (CalEPA 2021), the state achieved its 2020 GHG emissions reductions target of returning to 1990 levels four years earlier than mandated by AB 32. The state is currently implementing strategies in the Scoping Plan Updates to further reduce its GHG emissions by 40 percent below 1990 levels by 2030.

4.8.2.4 Local Regulations

County Climate Action Plan

The County adopted a Climate Action Plan (EnergyWise Plan) on November 22, 2011, as a blueprint for reducing GHG emissions. Additionally, a Green Building Ordinance to improve energy efficiency in new and existing development effective January 1, 2013. The CAP focuses on local actions to reduce GHG emissions through energy efficiencies, including retrofitting existing buildings; reversing rural sprawl; and increasing use of non-fossil fuels such as solar and wind energy (County 2011). The EnergyWise Plan was updated in 2016 (County 2016).

County General Plan, Conservation and Open Space Element

The County Board of Supervisors in 2010 adopted a comprehensive Conservation and Open Space Element with a focus on reducing GHG emissions, increasing energy efficiency, and using local renewable energy. The County's EnergyWise Plan (adopted in 2011 and updated in 2016) included an inventory of GHG. The EnergyWise Plan is required by the Conservation and Open Space Element of the General Plan. The Inventory found that community-wide emissions in 2006 were 1,884,358 MTCO₂e and reduced to 1,757,387 MTCO₂e in 2013.

SLOCAPCD

The SLOCAPCD initially adopted GHG thresholds on March 28, 2012, updated their CEQA Air Quality Handbook in April 2012, and in 2023 issued CEQA Greenhouse Gas Thresholds & Guidance (SLOCAPCD 2023) to incorporate revised thresholds. The County threshold of 10,000 MTCO₂e for industrial sources remains applicable. The thresholds for residential, commercial, and mixed-use projects have been revised.

4.8.3 Thresholds of Significance

Thresholds are defined in two categories, land use development projects and industrial projects.

The thresholds for land use development are shown here for informational purposes. For land use development projects, the GHG threshold is dependent on the year of the proposed development, as described below:

- Annual emissions less than a bright line threshold depending on year, ranging from 930 MTCO_{2e}/year in 2024 to 150 MTCO_{2e}/year in 2045; or
- Annual emissions less than a specified amount based on service population (residents + employees) ranging from 4.2 MTCO_{2e}/service population/year in 2024 to 0.7 MTCO_{2e}/service population/year in 2045.

Land use development projects include residential, commercial, and public land uses and facilities. This includes amortization of the construction emissions over the life of the project.

For industrial projects, as is this Project, the threshold is 10,000 MT/year of CO_{2e}. Stationary-source projects include land uses that would accommodate processes and equipment that emit GHG emissions and would require a SLOCAPCD permit to operate. This threshold is applied to emissions within the County.

For construction, the GHG emissions from construction are amortized over the life of the project (50 years for residential projects and 25 years for commercial and industrial projects) and added to the operational GHG emissions.

The thresholds used in this document are those reflected in the SLOCAPCD 2023 Guidance and are listed below:

- a. Does the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment; and
- b. Does the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?

The GHG threshold is defined in terms of carbon dioxide equivalent (CO_{2e}), a metric that accounts for the emissions from various GHGs based on their global warming potential. If annual emissions of GHGs exceed these threshold levels, the Project would result in a cumulatively considerable contribution of GHG emissions and a cumulatively significant impact to global climate change (SLOCAPCD 2023).

Applicable plans, policies or regulations include the County Climate Action plan, San Luis Obispo Council of Governments Regional Transportation Plan/Sustainable Community Strategies, CARB Scoping Plan, and SB 743 (see above).

4.8.4 Impact Assessment Methodology

GHG emissions, similar to the criteria pollutant emissions estimates discussed in Section 4.3, Air Quality, are estimated utilizing computer models which incorporate a range of different inputs and emission factors. On-site construction emissions are estimated utilizing the CalEEMod computer model, which incorporates emission factors for equipment. In addition, the generation of waste

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materials to be hauled off site by train and truck are calculated separate from the CalEEMod model using the EMFAC emission factor model to estimate emissions rates from on-road vehicles and the U.S. EPA for locomotive emission rates. Operational emissions are nominal and primarily related to only occasional vehicles commuting to the site and on site related to restoration monitoring, etc. The results of these analyses are detailed in Appendix C.

4.8.5 Project-Specific Impacts and Mitigation Measures

Impacts related to GHG emissions levels or compliance with plans are discussed below.

Impact #	Impact Description	Residual Impact
GHG.1	Threshold a): Would the project generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment [based on the SLOCAPCD thresholds]?	Class IV

Emissions of GHG at the SMR site associated with the demolition and remediation and along the transportation routes would result from on-site activities (construction equipment, etc.), vehicles (truck deliveries of materials and hauling) and locomotives (to haul materials). Appendix C shows the GHG emissions associated with the Project, both within the County and within California. Total amortized GHG emissions (amortized over 25 years as per the SLOCAPCD Guidelines) total 938 MTCO_{2e} per year within California (291 MTCO_{2e} amortized within the County) associated with only the demolition and remediation activities. This includes emissions at the Project site as well as emissions from transportation of materials.

The operations of the SMR historically have produced a substantial amount of GHG emissions, being one of the largest contributors to GHG emissions within the County as indicated in the environmental setting discussion above. There would therefore be a net reduction in GHG emissions within the County compared to the baseline.

As GHG emissions have global implications, it is important to examine the implications of the range of projects. Within California, the GHG emissions associated with the demolition Project would be below the SLOCAPCD thresholds. However, activities at the Rodeo Refinery, which necessitated the closure of the SMR, would generate GHG emissions. The EIR prepared for the Rodeo Renewed Project (2021) indicates that *“relative to baseline emissions, the Project would result in decreases in annual GHG emissions and therefore have a beneficial impact with regard to GHG emissions.”* Therefore, emissions of GHG within California would be reduced producing a net reduction in GHG emissions. As the total GHG emissions associated only with the Project would not exceed the SLOCAPCD thresholds for GHG emissions, and would actually be a substantial net reduction, either within the County or within California associated with the Project, emissions of GHG would be a **beneficial impact (Class IV)**.

Impact #	Impact Description	Residual Impact
GHG.2	Threshold b): Would the project conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	Class III

The Project would involve the demolition and remediation of the Project site, and relative to baseline operations, there would be a net reduction in GHG emissions, within the County and within California. The Project impacts relative to selected California and local plans and policies are discussed below.

Climate Change Scoping Plan: The Scoping Plan addresses various policies, including the expansion of bio-based transportation fuels and compliance with a number of programs, including Cap-and-Trade. The SMR demolition and remediation Project is part of a larger effort to reduce the reliance on fossil fuels associated with the Rodeo Renewed Project (Contra Costa County 2021). Therefore, the Project would be consistent with the Scoping Plan.

Mandatory GHG emissions reporting regulations: The SMR historically complies with the MRR. Once the demolition and remediation Project commences, the net reduction in GHG emissions from the SMR would no longer require compliance with the MRR. Therefore, the Project would be in compliance with the MRR.

Low Carbon Fuel Standard: The Project would not be a part of the LCFS itself but would be part of the larger effort to reduce the carbon content of transportation fuels by enabling the Rodeo Renewed Project (Contra Costa County 2021). Therefore, the Project would be compliant with the LCFS.

California Cap-and-Trade Program: As the SMR is no longer generating GHG emissions, it would no longer be subject to the Cap-and-Trade Program allowances requirements. In addition, all diesel and gasoline fuel used by the Project would be subject to the Cap-and-Trade Program as part of the retail requirements for transportation fuels. Therefore, the Project would be compliant with the Cap-and-Trade Program.

Executive Order S-3-05 Emission Reduction Goals: As the Project would be part of the larger effort to incorporate bio-based transportation fuels, it would be part of the effort to achieve the long-term targets for GHG reductions. Therefore, the Project would be compliant with the reduction goals program.

The County Climate Action Plan and General Plan, Conservation and Open Space Element: The Climate Action Plan (CAP, EnergyWise Plan) focuses on local actions to reduce GHG emissions including increasing the use of non-fossil fuels. The General Plan Element has a focus on reducing GHG emissions. As the Project would be part of the larger effort to incorporate bio-based transportation fuels and would generate a net reduction in GHG emissions in the County, it would be consistent with the CAP and the General Plan.

4.8 Greenhouse Gas Emissions

San Luis Obispo Council of Governments Regional Transportation Plan/Sustainable Community Strategies: As the Project would not involve development and or an increase in vehicle traffic over the historical operations, there would be no impacts to the transportation plans.

SB 753 Transportation Impacts: The GHG analysis includes the use of autos and trucks emissions and their associated VMT in the generation of the GHG emissions estimates. Section 4.15, Transportation, addresses the VMT metric.

As the Project would be consistent with the above plans and policies, it would have a **less than significant impact (Class III)**.

4.8.6 Mitigation Measure Impacts to Other Issue Areas

As no mitigation measures are proposed for GHG emissions, there would not be any impact from the mitigation measures on any other issue areas.

4.8.7 Cumulative Impacts

Cumulative projects are identified and discussed in Chapter 3.0, Cumulative Study Area. These cumulative projects are discussed below. As all GHG emissions are inherently cumulative, compliance with the thresholds implies a cumulatively less than significant impact.

Ongoing SMR projects, including the Slop Oil Spill and the Northern Inactive Waste Site (NIWS) remediation projects and the remaining facilities off-site projects (Summit Pump Station and Santa Maria Pump Station), would continue remediation efforts and would not have a cumulative impact for GHG emissions as they do not generate significant GHG emissions.

Other projects in the area, such as the Arroyo Grande Oil Field, Caballero Battery project, Monarch Dunes or the Dana Reserve development projects, or the Santa Barbara County projects, would entail development in the area and could contribute to increases in GHG emissions in the area. All of these other projects would be required to comply with the SLOCAPCD CEQA requirements. The Project also complies with the SLOCAPCD CEQA requirements by being below the thresholds. Therefore, a cumulative impact would not occur.

Roadway projects would not entail the use of large GHG emissions sources and would therefore not produce cumulative impacts.

4.8.8 References

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4.9 Hazards and Hazardous Materials

This section discusses potential public safety and hazardous materials impacts associated with the Project. The information in this section outlines the environmental setting, regulatory setting, significance criteria, potential Project spill scenarios and their significance, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition of aboveground infrastructure and remediation of the site, followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

For a discussion of air toxic health risk impacts, please see Section 4.3, Air Quality.

4.9.1 Environmental Setting

For the Project, environmental setting or baseline conditions reflect the baseline risks of upset associated with operations of the Santa Maria Refinery (SMR) and transportation of refinery-related materials.

An upset condition at the listed facilities or along transportation routes could have an adverse impact to the public and environmental resources in the study area. Impacts to air, water, cultural, agricultural, and biological resources are discussed in the appropriate sections of this Environmental Impact Report (EIR). For public safety, the study area includes the area in the SMR vicinity, associated pipelines, and transportation routes. The study area would include residences, businesses, educational institutions, etc.

As per the California Department of Conservation, Geologic Energy Management Division (CalGEM), there are no abandoned oil and gas wells located on or near the site.

4.9.1.1 Existing Refinery Operations

The Rail Spur EIR prepared in 2015 (County 2015) quantified the potential risks associated with the SMR operations. Additional information on the existing hazards at the SMR can also be found in the Throughput Increase EIR (County 2012). This analysis is summarized below.

The SMR processed crude oil and produced gas, both of which could present risks to the public if released. Crude oil is processed and then stored in tanks that could spill and ignite, creating thermal radiation impacts. Thermal radiation impacts from crude oil tank fires could cause injury 220 feet away. The closest population to the crude oil tanks at the SMR is an industrial land use area 425 feet northeast of the crude oil storage facilities. The closest residence to the crude oil tanks, which is located within the industrial land use area, is 1,200 feet northeast of the tank storage area. The gas processing equipment and piping are within the SMR, at least 1,700 feet from the SMR fence

4.9 Hazards and Hazardous Materials

line. Given the limited population and significant distance between these receptors and the SMR, there would not be a significant risk level.

A search of historical release data for the SMR through the Federal Emergency Response Notification System associated with the Rail Spur EIR indicated that, over 28 years, a total of 16 reportable releases occurred (from 1982 through 2010). Fifteen of these releases were associated with routing of excess gases to the emergency-only flare stack due to several equipment failures, including boiler and compressor failures. A database search of the California Office of Emergency Services from 2011 through June 2023 indicated 15 releases associated with the SMR, most related to flaring, pump seal leaks or drain line leaks.

The rail operations associated with the SMR consists of the export of petroleum coke from the SMR for commercial use throughout the U.S. and abroad. A train typically arrives and drops off 18 to 20 empty cars. After delivering the empty cars, the engine picks up any full cars and leaves the SMR. Each full car hauls approximately 100 tons. The delivered empty cars are filled with coke during the following week and moved around on site by a ‘shuttlewagon’. The shuttlewagon, also referred to as a ‘switching locomotive’, is a small unit compared to an actual train locomotive.

Spills of coke from rail cars along transportation routes, or within the SMR, could cause localized environmental impacts necessitating cleanup of spilled materials. However, as the coke is in solid (powder) form, it would not volatilize, explode, or travel substantial distances and therefore would not cause significant risks along the transportation routes.

Trucks also have historically been used at the SMR to transport materials, including solid (powdered) sulfur and other materials. Truck trips over the last five full years of operations have averaged 37 trucks per day. Spills of sulfur from trucks along transportation routes, or within the SMR, could cause localized environmental impacts necessitating cleanup of spilled materials (note that the sulfur is often used as an agricultural resource and is therefore relatively non-toxic). However, as the sulfur is in solid form (powder), it would not volatilize, explode, or travel substantial distances and therefore would also not cause significant risks along the transportation routes.

The historical transportation of crude oil by pipeline and truck associated with the SMR operations also occurs, with crude oil and SMR products being transported to and from the SMR by pipeline and some crude oil being transported to the SMR by truck and to pipeline transfer areas. Spills of crude oil and refined products by pipeline or truck can produce substantial impacts. Santa Barbara County ExxonMobil Trucking Project EIR (SBC 2021) demonstrated with quantitative analysis that impacts of trucking crude oil can produce significant environmental risks through spills and subsequent impacts to the environment.

For pipeline spills, historical EIRs for the SMR associated pipeline systems (SBC 1991 #91 EIR 08 and SEIR 2001, 00-EIR-09, SCH #1991061017) indicate that spills could generate Class I significant impacts to biology and water resources. Significant impacts to biology and water resources were identified that could potentially occur in the event of an oil spill at locations where the pipeline is near or crosses under sensitive biological and water resources.

Contamination databases, such as the Department of Toxic Substances Control (DTSC) database system EnviroStor (DTSC 2023) and GeoTracker (<https://geotracker.waterboards.ca.gov/>), indicate that although the site is not on the Cortese list (as per June 2023 listing <https://www.envirostor.dtsc.ca.gov/public/>), the EnviroStor database lists a number of facilities in the Project site vicinity, including:

- SMR Site - Conoco Phillips Company (80001825), corrective action, with activities dating back to 1985, with recent actions primarily related to the coke piles; media of concern: soils; contaminants of concern: polynuclear aromatic hydrocarbons, vanadium and compounds. The most recent inspection date is May 2022;
- SMR Site – Phillip 66 Refinery PFAS Investigation (T10000017182), open site assessment as of 9/15/2023. Potential impact to aquifer for drinking water supply, soil and surface water.
- SMR Site- Phillips 66 Santa Maria Refinery (SL203121248), cleanup program, with activities dating back to 1965, with recent actions primarily related to the Slop Oil Line Release and Northern Inactive Waste Site (NIWS); media of concern: groundwater; Contaminants of concern: metals/heavy metals, petroleum/fuels/oils, polynuclear aromatic hydrocarbons. The most recent inspection date are soil excavation reports dated July 2022;
- Wrecking Yards And Automobile Dismantlers (71003740) (along Sheridan Road and Highway 1, about one mile east of the SMR entrance), tiered permit, corrective action under consent agreement dated to 2002. No further action as of 2002 recorded in the database; and
- Brushpoppers Riding Club Site (40860001) (about one mile north of the SMR entrance along Highway 1, Mesa View Drive), school investigation, Phase 1 completed 2000, DTSC indicated no further action in 2000.

4.9.2 Regulatory Setting

4.9.2.1 Federal Regulations

Federal Regulation of Transportation by Rail, Highway, and Pipeline

The Federal Railroad Administration (FRA), which is part of the U.S. Department of Transportation (U.S. DOT), is responsible for regulating the safety of the nation's railroad system. FRA promulgates railroad safety regulations (49 Code of Federal Regulations [CFR] subtitle B, chapter II (parts 200-299)) and orders, enforces those regulations and orders as well as the Hazardous Materials Regulations at 49 CFR Parts 171-180, and the federal railroad safety laws, and conducts a comprehensive railroad safety program.

FRA's regulations promulgated for the safety of railroad operations involving the movement of freight address: (1) railroad track; (2) signal and train control systems; (3) operating practices; (4) railroad communications; (5) rolling stock; (6) rear-end marking devices; (7) safety glazing; (8) railroad accident/incident reporting; (9) locational requirements for the dispatch of U.S. rail operations; (10) safety integration plans governing railroad consolidations, mergers, and acquisitions of control; (11) alcohol and drug testing; (12) locomotive engineer and conductor certification; (13) workplace safety; (14) highway-rail grade crossing safety; and other subjects.

4.9 Hazards and Hazardous Materials

The FRA inspects rail facilities throughout the country in order to ensure compliance with its own regulations, and those adopted by the Pipeline and Hazardous Materials Safety Administration (PHMSA).

PHMSA is another department within the U.S. DOT. Pursuant to the Hazardous Materials Transportation Act, PHMSA adopts regulations governing the transport of hazardous materials by rail, highway, air, and water. The PHMSA regulations are set forth in Chapter I of Subtitle B of Title 49 of the CFR. The FRA enforces the requirements set forth in PHMSA regulations.

The National Transportation Safety Board (NTSB) is an independent federal agency. The NTSB reviews transportation accidents, including rail accidents, and makes recommendations to FRA and PHMSA for regulatory changes.

The American Association of Railroads (AAR) is an industry trade association that represents railroads, including the major freight railroads in the United States, Canada, and Mexico. AAR adopts standards for the design and construction of tank cars used by its members. In some cases, these standards are more stringent than the requirements set forth in FRA or PHMSA regulations.

The PHMSA regulations classify hazardous materials based on each material's hazardous characteristics. Crude oil is assigned to hazard Class 3, based on specified characteristics of flammability and combustibility (49 CFR 173.120).

Liquid Pipelines and Oil Facilities

Hazardous liquid pipelines are under the jurisdiction of the U.S. DOT and must follow the regulations in 49 CFR Part 195, Transportation of Hazardous Liquids by Pipeline, as authorized by the Hazardous Liquid Pipeline Safety Act of 1979 (49 USC 2004).

Other applicable federal requirements are contained in 40 CFR Parts 109, 110, 112, 113, and 114, pertaining to the need for Oil Spill Prevention Control & Countermeasures Plans; 40 CFR Parts 109–114 promulgated in response to the Oil Pollution Act of 1990.

Overview of the 49 CFR 195 Requirements

Part 195.30 incorporates many of the applicable national safety standards of the:

- American Petroleum Institute (API);
- American Society of Mechanical Engineers (ASME);
- American National Standards Institute (ANSI); and
- American Society for Testing and Materials (ASTM).

Part 195.50 requires reporting of accidents by telephone and in writing for:

- Explosion or fire not intentionally set by the operator;
- Spills of five gallons or more or five barrels if confined to company property and cleaned up promptly;
- Daily loss of five barrels a day to the atmosphere;
- Death or injury necessitating hospitalization; or

- Estimated property damage, including cleanup costs, greater than \$50,000.

The Part 195.100 series includes design requirements for the temperature environment, variations in pressure, internal design pressure for pipe specifications, external pressure, and external loads, new and used pipe, valves, fittings, and flanges.

The Part 195.200 series provides construction requirements for standards such as compliance, inspections, welding, siting and routing, bending, welding and welders, inspection and nondestructive testing of welds, external corrosion and cathodic protection, installing in-ditch and covering, clearances and crossings, valves, pumping, breakout tanks, and construction records.

The Part 195.300 series prescribes minimum requirements for hydrostatic testing, compliance dates, test pressures and duration, test medium, and records.

The Part 195.400 series specifies minimum requirements for operating and maintaining steel pipeline systems, including:

- Correction of unsafe conditions within a reasonable time;
- Procedural manual for operations, maintenance, and emergencies;
- Training;
- Maps;
- Maximum operating pressure;
- Communication system;
- Cathodic protection system;
- External and internal corrosion control;
- Valve maintenance;
- Pipeline repairs;
- Overpressure safety devices;
- Firefighting equipment; and
- Public education program for hazardous liquid pipeline emergencies and reporting.

Overview of 40 CFR Parts 109, 110, 112, 113, and 114

The Spill Prevention, Control and Countermeasure (SPCC) Plans covered in these regulatory programs apply to oil storage and transportation facilities and terminals, tank farms, bulk plants, oil refineries, and production facilities, as well as bulk oil consumers, such as apartment houses, office buildings, schools, hospitals, farms, and state and federal facilities as follows:

- Part 109 establishes the minimum criteria for developing oil-removal contingency plans for certain inland navigable waters by state, local, and regional agencies in consultation with the regulated community (i.e., oil facilities);
- Part 110 prohibits discharge of oil such that applicable water quality standards would be violated, or that would cause a film or sheen upon or in the water. These regulations were updated in 1987 to adequately reflect the intent of Congress in Section 311(b) (3) and (4) of the Clean Water Act, specifically incorporating the provision “in such quantities as may be harmful.”;

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- Part 112 deals with oil spill prevention and preparation of Spill Prevention Control and Countermeasure Plans. These regulations establish procedures, methods, and equipment requirements to prevent the discharge of oil from onshore and offshore facilities into or upon the navigable waters of the United States. These regulations apply only to non-transportation-related facilities;
- Part 113 establishes financial liability limits; however, these limits were preempted by the Oil Pollution Act of 1990; and
- Part 114 provides civil penalties for violations of the oil spill regulations.

Overview of 6 CFR Part 27

Chemical Facility Anti-Terrorism Standards, 6 CFR 27. The Federal Department of Homeland Security established the chemical facility anti-terrorism standards of 2007. This 2007 rule established risk-based performance standards for the security of chemical facilities. It requires covered chemical facilities to prepare Security Vulnerability Assessments, which identify facility security vulnerabilities, and to develop and implement Site Security Plans, which include measures that satisfy the identified risk-based performance standards.

Emergency Planning and Community Right-to-Know Act

Under the Emergency Planning and Community Right-to-Know Act, or Title III of the Superfund Amendments and Reauthorization Act of 1986, the United States Environmental Protection Agency (U.S. EPA) requires local agencies to regulate the storage and handling of hazardous materials and requires development of a plan to mitigate the release of hazardous materials. Businesses that handle any of the specified hazardous materials must submit to government agencies (i.e., fire departments or Public Health Departments), an inventory of the hazardous materials, an emergency response plan, and an employee training program. The business plans must provide a description of the types of hazardous materials/waste on site and the location of these materials. The information in the business plan can then be used in the event of an emergency to determine the appropriate response action, the need for public notification, and the need for evacuation.

In 1990, Congress passed the Pollution Prevention Act which requires facilities to report additional data on waste management and source reduction activities to U.S. EPA under the Toxics Release Inventory Program. The goal of the Toxics Release Inventory is to provide communities with information about toxic chemical releases and waste management activities and to support informed decision making at all levels by industry, government, non-governmental organizations, and the public.

Hazardous Materials Management Planning

Section 112(r) of the Clean Air Act Amendments of 1990, 40 CFR 68

The U.S. EPA requires facilities that handle listed regulated substances to develop Risk Management Programs (RMP) to prevent accidental releases of these substances. RMP materials are submitted to both local agencies (generally the fire department) and the U.S. EPA. Stationary sources with more than a threshold quantity of a regulated substance shall be evaluated to determine the potential for, and impacts of, accidental releases of that substance. Under certain conditions, the owner or operator of a stationary source may be required to develop and submit a RMP. RMPs consist of three main elements: a hazard assessment that includes off-site

consequences analyses and a five-year accident history; a prevention program; and an emergency response program.

National Contingency Plan Requirements

Spill Prevention Control and Countermeasures Plans, 40 CFR 112.3 and 112.7

Facilities that store large volumes of hazardous materials are required to have an SPCC Plan per the requirements of 40 CFR 112 submitted to the U.S. EPA. The SPCC Plan is designed to prevent spills from on-site facilities and includes requirements for secondary containment, provides emergency response procedures, and establishes training requirements.

Worker Health and Safety

Occupational Safety and Health Act, 29 CFR et seq.

Under the authority of the Occupational Safety and Health Act of 1970, the Federal Occupational Safety and Health Administration (OSHA) has adopted numerous regulations pertaining to worker safety (29 CFR) and provides oversight and enforcement (along with Cal/OSHA in California). These regulations set standards for safe workplaces and work practices, including the reporting of accidents and occupational injuries. Some OSHA regulations contain standards relating to hazardous materials handling, including workplace conditions, employee protection requirements, first aid, and fire protection, as well as material handling and storage.

Hazard Communication, 29 CFR 1910.1200

The OSHA Hazard Communication law ensures that the hazards of all chemicals produced or imported are evaluated and that information about any potential hazards is transmitted to employers and employees. This information transmittal is to be accomplished through comprehensive hazard communication programs, including container labeling and other forms of warning, material safety data sheets, and employee training.

Process Safety Management, 29 CFR 1910.119

Under this section, facilities that use, store, manufacture, handle, process, or move hazardous materials are required to:

- Conduct employee safety training;
- Have an inventory of safety equipment relevant to potential hazards;
- Have knowledge on use of the safety equipment;
- Prepare an illness and injury prevention program;
- Provide hazardous substance exposure warnings;
- Prepare an emergency response plan; and
- Prepare a fire prevention plan.

In addition, in 29 CFR 1910.119, Process Safety Management of Highly Hazardous Chemicals, OSHA specifically requires prevention program elements to protect workers at facilities that have toxic, flammable, reactive, or explosive materials. Prevention program elements are aimed at preventing or minimizing the consequences of catastrophic releases of chemicals and include process hazard analyses, formal training programs for employees and contractors, investigation of equipment mechanical integrity, and an emergency response plan.

Toxic Substances Control Act

The Toxic Substances Control Act (TSCA) of 1976 authorizes the U.S. EPA to require reporting, record keeping, testing requirements, and restrictions related to chemical substances and/or mixtures. Food, drugs, cosmetics, and pesticides are generally excluded from TSCA. There are six primary substances that the U.S. EPA focuses on under the TSCA, including polychlorinated biphenyls (PCBs), asbestos, radon, lead, formaldehyde, and mercury. TSCA requirements most often affect the regulation of PCBs, asbestos, and lead in federal facilities. For example, under the TSCA, asbestos regulations require that only properly trained and certified persons perform asbestos abatement activities in public or commercial buildings.

Comprehensive Environmental Response, Compensation, And Liability Act

The Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) of 1980 provides a federal “superfund” to aid in the cleanup of uncontrolled or abandoned hazardous waste sites, as well as accidents, spills, and other emergency releases of pollutants and contaminants into the environment. The “superfund” was established by taxing the chemical and petroleum industries. Under CERCLA, the U.S. EPA is given the power to seek out parties responsible for pollutant or contaminant release and assure their cooperation in cleanup. CERCLA also established the revision of the National Contingency Plan, which provides guidelines and procedures necessary to respond to releases and threatened releases of hazardous substances, pollutants, or contaminants. In addition, the National Contingency Plan created the National Priorities List (NPL), which is the list of sites of national priority among the known releases or threatened releases of hazardous substances, pollutants, or contaminants throughout the United States.

4.9.2.2 State Regulations

State laws address gas and liquid pipelines, oil and gas facilities, and hazardous materials and waste. These are discussed in the following sections.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) is the state agency charged with ensuring the safety of freight railroads, inter-city and commuter railroads, and highway-railroad crossings in the State of California. CPUC performs these railroad safety responsibilities through the Railroad Operations and Safety Branch (ROSB) of the Safety & Enforcement Division.

ROSB’s mission is to ensure that California communities and railroad employees are protected from unsafe practices on freight and passenger railroads by enforcing rail safety rules, regulations, and inspection efforts; and by carrying out proactive assessments of potential risks before they create dangerous conditions. ROSB personnel investigate rail accidents and safety-related complaints, and recommend safety improvements to the CPUC, railroads, and the federal government as appropriate.

The CPUC is responsible for enforcing federal and state railroad safety requirements, including those governing railroad tracks, facilities, bridges, rail crossings, motive power and equipment, operating practices, and hazardous material shipping requirements.

ROSB has rail inspectors that conduct inspections in five railroad disciplines:

1. Operating Practices – oversight of main, branch and yard train operations, including hours of service, carrier operating rules, employee qualification guidelines, and carrier training and testing programs to determine compliance with railroad occupational safety and health standards, accident and personal injury reporting requirements, and other requirements.
2. Track – oversight of track construction, maintenance and inspection activities.
3. Signal & Train Control – oversight of signal system construction, maintenance and inspection activities.
4. Motive Power & Equipment – oversight of locomotives, freight and passenger rail cars, air brakes, and other safety appliances maintenance and inspection activities.
5. Hazardous Materials – oversight of the rail movements of hazardous materials, such as petroleum and chemical products; and inspection of hazardous materials shippers.

At a minimum, mainline track within California is inspected by ROSB inspectors on an annual basis. Any identified track deficiencies are reported to the FRA and the track operator, and repairs are required to be made.

Gas and Liquid Pipelines and Oil Facilities

Overview of California Pipeline Safety Regulations

State of California regulations Part 51010 through 51018 of the Government Code provide specific safety requirements that are more stringent than the Federal rules. These include:

- Periodic hydrostatic testing of pipelines, with specific accuracy requirements on leak rate determination;
- Hydrostatic testing by state-certified independent pipeline testing firms;
- Pipeline leak detection; and
- Reporting of all leaks required.

Recent amendments require pipelines to include means of leak prevention and cathodic protection, with acceptability to be determined by the California Office of the State Fire Marshal (OSFM). All new pipelines must also be designed to accommodate passage of instrumented inspection devices (smart pigs) through the pipeline.

California Pipeline Safety Act of 1981

The California Pipeline Safety Act gives regulatory jurisdiction for the safety of all intrastate hazardous liquid pipelines and all interstate pipelines used for the transportation of hazardous or highly volatile liquid substances to the OSFM. The law establishes the governing rules for interstate pipelines to be the Federal Hazardous Liquid Pipeline Safety Act and federal pipeline safety regulations.

Oil Pipeline Environmental Responsibility Act (Assembly Bill 1868)

This Act requires every pipeline corporation qualifying as a public utility and transporting crude oil in a public utility oil pipeline system to be held strictly liable for any damages incurred by “any

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injured party which arise out of, or are caused by, the discharge or leaking of crude oil or any fraction thereof ...” The law applies only to public utility pipelines for which construction would be completed after January 1, 1996, or that part of an existing utility pipeline that is being relocated after the above date and is more than three miles in length. The major features signed into law in October 1995 include:

- Each pipeline that transports any crude oil in a common carrier (i.e., public) oil pipeline system shall be absolutely liable, without regard to fault, for any damages incurred by any injured party that arise out of, or are caused by, the discharge or leaking of crude oil;
- Damages for which a pipeline corporation is liable under this law are: all costs of response, containment, cleanup, removal, and treatment, including monitoring and administration cost; injury or economic losses resulting from destruction of, or injury to, real or personal property; injury to, destruction of, or loss of natural resources, including but not limited to, the reasonable cost of rehabilitating wildlife habitat, and other resources and the reasonable cost of assessing that injury, destruction, or loss, in any action brought by the state, county, city, or district; loss of taxes, royalties, rents, use, or profit shares caused by the injury, destruction, loss, or impairment of use of real property, personal property, or natural resources; and loss of use and enjoyment of natural resources and other public resources or facilities in any action brought by the state, county, city, or district;
- A pipeline corporation shall immediately clean up all crude oil that leaks or is discharged from a pipeline;
- No pipeline system subject to this law shall be permitted to operate unless the State Fire Marshal certifies that the pipeline corporation demonstrates sufficient financial responsibility to respond to the liability imposed by this section. The minimum financial responsibility required by the State Fire Marshal shall be seven hundred fifty dollars (\$750) times the maximum capacity of the pipeline in the number of barrels per day up to a maximum of one hundred million dollars (\$100,000,000) per pipeline system, or a maximum of two hundred million dollars (\$200,000,000) per multiple pipeline system;
- Financial responsibility shall be demonstrated by evidence that is substantially equivalent to that required by regulations issued under Section 8670.37.54 of the Government Code, including insurance, surety bond, letter of credit, guaranty, qualification as a self-insurer, or combination thereof or any other evidence of financial responsibility. The State Fire Marshal shall require that the documentation evidencing financial responsibility be placed on file with that office; and
- The State Fire Marshal shall require evidence of financial responsibility to fund post-closure cleanup spots. The evidence of financial responsibility shall be 15 percent of the amount of financial responsibility stated above.

California Accidental Release Prevention

The California Accidental Release Prevention (CalARP) program mirrors the Federal Risk Management Program, except that it adds external events and seismic analysis to the requirements and includes facilities with lower inventories of materials. A California Accidental Release Prevention or Risk Management Plan, as administered by the Fire Departments and the California

Environmental Protection Agency (CalEPA), if applicable, is a document prepared by the owner or operator of a stationary source containing detailed information including:

- Regulated substances held on site at the stationary source;
- Off-site consequences of an accidental release of a regulated substance;
- The accident history at the stationary source;
- The emergency response program for the stationary source;
- Coordination with local emergency responders;
- Hazard review or process hazard analysis;
- Operating procedures at the stationary source;
- Training of the stationary source's personnel;
- Maintenance and mechanical integrity of the stationary source's physical plant; and
- Incident investigation.

Hazardous Materials and Hazardous Waste

Hazardous Waste Control Law

The Hazardous Waste Control Law is administered by CalEPA, DTSC. DTSC has adopted extensive regulations governing the generation, transportation, and disposal of hazardous wastes. These regulations impose cradle-to-grave requirements for handling hazardous wastes in a manner that protects human health and the environment. The Hazardous Waste Control Law regulations establish requirements for identifying, packaging, and labeling hazardous wastes. They prescribe management practices for hazardous wastes; establish permit requirements for hazardous waste treatment, storage, disposal, and transportation; and identify hazardous wastes that cannot be disposed of in landfills. Hazardous waste is tracked from the point of generation to the point of disposal or treatment using hazardous waste manifests. The manifests list a description of the waste, its intended destination, and regulatory information about the waste.

Hazardous Materials Management Planning

The Office of Emergency Services, in support of local government, coordinates overall state agency response to major disasters. The office is responsible for assuring the state's readiness to respond to and recover from natural, manmade, and war-caused emergencies, and for assisting local governments in their emergency preparedness, response, and recovery efforts. During major emergencies, the Office of Emergency Services may call upon all state agencies to help provide support. Due to their expertise, the California National Guard, California Highway Patrol (CHP), California Department of Forestry and Fire Protection (CAL FIRE), Conservation Corps, Department of Social Services, and California Department of Transportation (Caltrans) are the agencies most often asked to respond and assist in emergency response activities.

Hazardous Materials Transportation in California

California regulates the transportation of hazardous waste originating or passing through the state in Title 13 of the California Code of Regulations. The CHP and Caltrans have primary responsibility for enforcing federal and state regulations and responding to hazardous materials transportation emergencies. The CHP enforces materials and hazardous waste labeling and packing regulations that prevent leakage and spills of material in transit and provide detailed information to cleanup crews in the event of an incident. Vehicle and equipment inspection, shipment preparation, container identification, and shipping documentation are all part of the

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responsibility of the CHP. The CHP conducts regular inspections of licensed transporters to ensure regulatory compliance. Caltrans has emergency chemical spill identification teams at locations throughout the state.

Hazardous waste must be regularly removed from generating sites by licensed hazardous waste transporters. Transported materials must be accompanied by hazardous waste manifests.

Hazardous Material Worker Safety, California Occupational Safety and Health Act

The California Division of Occupational Safety and Health (Cal/OSHA) is responsible for assuring worker safety in the handling and use of chemicals in the workplace. Cal/OSHA assumes primary responsibility for developing and enforcing workplace safety regulations in Title 8 CCR. Cal/OSHA hazardous materials regulations include requirements for safety training, availability of safety equipment, hazardous substance exposure warnings, and emergency action and fire prevention plan preparation.

Cal/OSHA also enforces hazard communication program regulations, which contain training and information requirements, including procedures for identifying and labeling hazardous substances. The hazard communication program also requires that Safety Data Sheets (SDS), formerly Material Safety Data Sheets, be available to employees and that employee information and training programs be documented.

Cortese List

The Cortese List, which is a hazardous waste and substances site list, is a planning document used by the state, local agencies, and developers to comply with the requirements of the California Environmental Quality Act (CEQA), which requires the disclosure of hazardous waste sites subject to corrective action. California Government Code Section 65962.5 requires the CalEPA to compile and annually update lists of hazardous waste sites and land designated as hazardous waste sites throughout the state. CalEPA may seek assistance from the DTSC, California Department of Health Services, State Water Resources Control Board (SWRCB), or California Department of Resources Recycling and Recovery (CalRecycle) when compiling the list. In regard to a new project, before the lead agency accepts an application for any development project as complete, the applicant must consult these lists to determine if the subject site is included on the Cortese List.

Asbestos Airborne Toxic Control Measure For Construction, Grading, Quarrying, And Surface Mining Operations

The California Air Resources Board (CARB) identifies asbestos as a toxic air contaminant. In the County of San Luis Obispo (County), asbestos naturally occurs in serpentine rock located throughout the County. According to CARB's Asbestos Airborne Toxic Control Measure (ATCM) for Construction, Grading, Quarrying, And Surface Mining Operations, prior to any grading activities at a site identified as having the potential for naturally occurring asbestos (NOA), the owner or operator will be required to comply with the applicable sections contained in the NOA ATCM. For those projects within an area identified as having the potential for NOA, the following requirements apply:

- For grading projects qualifying for NOA ATCM exemption, an NOA exemption form must be submitted with geologic evaluation;

- For grading projects in serpentine rock, less than one acre, a project form with geologic evaluation must be submitted and dust control measures shall be included during grading; and
- For grading projects in serpentine rock, more than one acre, a project form with geologic evaluation must be submitted, and an Asbestos Dust Mitigation Plan must be submitted for approval to be implemented during grading.

California Title 8 Section 1529

This section addresses asbestos exposure in all construction work and includes items such as demolition and salvage, spill emergency procedures, transportation and storage, exposure assessments and monitoring, compliance methods, respiratory protection, and protective clothing.

4.9.2.3 County of San Luis Obispo Regulations

General Plan Energy Element and Conservation and Open Space Element

In 1995, the County adopted the Energy Element as part of the County's General Plan, subsequently merged with the Conservation and Open Space Element. The Conservation and Open Space Element contains a goal of protecting public health, safety, and environment and several policies that promote the stated goal (County 2010). The applicable policies include:

- Policy 56. Encourage existing and proposed facilities to focus on measures and procedures that prevent oil, gas, and other toxic releases into the environment. This policy is to ensure that facilities: (1) take measures to prevent releases and spills; (2) prepare for responding to a spill or release; and (3) provide for the protection of sensitive resources. A review of a facilities spill response plan, or reports from other agencies, should be completed to monitor compliance.
- Policy 64. Guideline 64.1. To reduce the possibility of injury to the public, facility employees, or the environment, the applicant shall submit an emergency response plan which details response procedures for incidents that may affect human health and safety or the environment. The plan shall be based on the results of the comprehensive risk analysis. In the case of a facility modification, the existing response plan shall be evaluated by the safety review committee and revisions made as recommended.
- Flammable and Combustible Liquid Storage. County Coastal Zone Land Use Ordinance Section 23.06.126 includes requirements for flammable and combustible liquid storage relating to: applicability, permit requirements, limitation on use, limitation on quantity, setbacks, and including California Department of Forestry and Fire Prevention (CAL FIRE/County Fire) recommendations, as applicable. Without approval through a Development Plan, aboveground storage limits of combustible liquid is 20,000 gallons and 2,000 gallons for flammable liquids.

County Of San Luis Obispo Environmental Health Services

County Environmental Health Services (EHS) provides a Certified Unified Program Agency (CUPA) Program, based on CalEPA's CUPA program, for hazardous materials and waste. Under the County's CUPA Program, the following programs are monitored and enforced:

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- Aboveground Petroleum Storage Tank Program: The purpose of this program is to protect public health and the environment from a potential source of surface and groundwater contamination by regulating aboveground storage tanks containing hazardous materials. Program objectives are accomplished through inspection, plan review, incident investigation, enforcement, public education, and assistance to industry;
- Underground Storage Tank Program: The intent of the identified program is to protect public and environmental health from a potential source of groundwater contamination by regulating underground storage tanks containing hazardous materials. This is accomplished through inspection, plan check, incident investigation, enforcement, public education, and assistance to industry;
- California Accidental Release Prevention Program: As described above, the purpose of the CalARP is to protect the public health and the environment from the uncontrolled release of extremely hazardous substances by requiring businesses to establish programs to reduce the risk of an accidental hazardous substance release and manage emergency operations in the event of a release;
- Hazardous Materials Business Plan: As described above, the purpose of this program is to protect public health, emergency responders, and the environment from the release of hazardous materials at a regulated facility by ensuring proper handling and storage, and to provide timely and accurate information to emergency response personnel and to the public;
- Hazardous Waste Generator Program: This program protects the public health and the environment from the release of hazardous wastes by regulating industries that generate hazardous waste. This is accomplished through inspection, surveillance, incident investigation, assistance to industry, enforcement, and public education; and
- Household Hazardous Waste Disposal: This program regulates the release of hazardous wastes stored and generated by the general public by providing public education as well as opportunities to the general public to dispose of common household hazardous wastes in a manner that prevents contamination to the environment. This program is implemented by the County Integrated Waste Management Authority (IWMA).

4.9.2.4 Other Applicable Guidelines, National Codes, and Standards

Safety and Corrosion Prevention Requirements — American Society of Mechanical Engineers, National Association of Corrosion Engineers, American National Standards Institute, API

The following design requirements are generally enforced by local building departments, fire departments and public health departments during plan review and permit issuance. The code requirements address a range of issues that would reduce impacts, including equipment design, material selection, and use of safety valves.

- ASME & ANSI B16.1 Cast Iron Pipe Flanges and Flanged Fittings;
- ASME & ANSI B16.9, Factory-Made Wrought Steel Butt Welding Fittings;
- ASME & ANSI B31.1a, Power Piping;

- ASME & ANSI B31.4a, addenda to ASME B31.4a, Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols;
- NACE Standard RP0190, Item No. 53071. Standard Recommended Practice External Protective Coatings for Joints, Fittings, and Valves on Metallic Underground or Submerged Pipelines and Piping Systems;
- NACE Standard RP0169, Item No. 53002. Standard Recommended Practice Control of External Corrosion on Underground or Submerged Metallic Piping Systems;
- API 510 Pressure Vessel inspection Code;
- API 570 Piping Inspection Code, applies to in-service metallic piping systems used for the transport of petroleum products;
- API 572 Inspection of Pressure Vessels;
- API 574 Inspection Practices for Pipe System Components;
- API 575 API Guidelines and Methods for Inspection of Existing Atmospheric and Low-pressure Storage Tanks;
- API 576 Inspection of Pressure Relieving Devices;
- API 650 Welded Steel Tanks for Oil Storage;
- API 651 Cathodic Protection of Aboveground Storage Tanks;
- API 653 Tank Inspection, Repair, Alteration, and Reconstruction;
- API 2610, Design, Construction, Operation, Maintenance, and Inspection of Terminal & Tank Facilities; and
- API Spec 12B - Bolted Tanks for Storage of Production Liquids.

API 653, atmospheric tank inspection and repair addresses the following issues:

- Tank suitability for service;
- Brittle fracture considerations;
- Inspections;
- Materials;
- Design considerations;
- Tank repair and alteration;
- Dismantling and reconstruction;
- Welding;
- Examination and testing;
- Marking and recordkeeping;
- Pertinent issues related to tank inspections in API 653;
- External inspections by an authorized inspector every five years;
- Ultrasonic inspections of shell thickness every five years (when corrosion rate not known); and
- Internal bottom inspection every 10 years, if corrosion rates not known.

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Fire and Explosion Prevention and Control, National Fire Protection Agency

The following design requirements are generally enforced by fire departments during plan review and permit issuance. The code requirements address a range of issues that would reduce impacts, including firefighting system design, and water supply requirements.

- NFPA 30 Flammable and Combustible Liquids Code and Handbook;
- NFPA 11 Foam Extinguishing Systems;
- NFPA 12 A&B Halogenated Extinguishing Agent Systems;
- NFPA 15 Water Spray Fixed Systems;
- NFPA 20 Centrifugal Fire Pumps; and
- NFPA 70 National Electrical Code.

4.9.3 Thresholds of Significance

As defined in Appendix G (the Environmental Checklist Form) of CEQA, a significant impact on hazards and hazardous materials is defined by the following. Would the Project:

- a. Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- b. Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- c. Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;
- d. Be located on a site which is included on a list of hazardous waste sites compiled pursuant to Government Code § 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- e. For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project result in a safety hazard or excessive noise for people residing or working in the project area;
- f. Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- g. Expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?

In order to address “significant hazards” in regard to environmental damage, the threshold applied due to accidental spills is as follows: an impact of spills would be potentially significant if activities would increase the probability or volume of significant spills over the baseline operations into an environment that contained sensitive resources.

In addition, the thresholds do not apply to occupational safety. Occupational risk, which is governed by state and federal OSHAs is considered to be more voluntary and is generally judged according to more lenient standards of significance than those used for involuntary exposure.

A significant impact associated with existing site contamination and hazardous waste would be determined if the Project would result in mobilization of contaminants currently existing in the soil and groundwater, creating potential pathways of exposure to humans or other sensitive receptors that would result in exposure to contaminant levels that would be expected to be harmful.

4.9.4 Impact Assessment Methodology

The methodology utilized to assess potential impacts relates to the CEQA Guidelines Appendix G, which defines impacts for routine and accidental releases, school proximity, hazardous waste sites, safety hazard or excessive noise near an airport, emergency response access/plans, and wildfire impacts. Each of these criteria are examined individually within the impacts discussed below. Generally, environmental impacts would need to produce impacts that have a significant exposure, such as large release of crude oil or other mobile materials that could cause impacts to environmental resources and cannot be readily cleaned up.

4.9.5 Project-Specific Impacts and Mitigation Measures

The Project would involve removing facilities that have historically been used to process and transport oil and gas. Concerns about hazards are related primarily to accidental releases of crude oil or other material inventory which has not been previously removed from equipment or pipelines; and accidental releases of materials associated with the use of construction equipment. These issues are discussed below in relation to the issues identified in Appendix G of the CEQA Guidelines.

Impact #	Impact Description	Residual Impact
HAZ.1	Threshold a): Would the Project create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	Class II

The Project would involve the excavation and transportation of contaminated soils (remediation) which may result in some exposure of the public to contamination. These soils would be handled and transported as described in Chapter 2.0, Project Description, and include methods to minimize public exposure, including dust suppression, sweeping of roadways to limit off-site migration of dust, soil sampling during excavation, segregation and stockpiling of soils considered hazardous, transportation in covered bins or truck beds, and disposal at an appropriate facility, based on contamination levels and components. However, during grading or demolition, hydrocarbon contaminated soils would be encountered, and mishandling of contaminated soils could potentially cause a significant impact through exposure. Special handling of these soils would reduce potential exposure of the public.

Any exposure to hazardous materials involving an accident is addressed under impact HAZ.2 below. Asbestos is also discussed under impact HAZ.2.

Mitigation Measures

HAZ.1-1 Contaminated Soil Management Plan: The Project Applicant shall prepare and follow a contaminated soil handling management plan in coordination with the San Luis Obispo County Air Pollution Control District (SLOCAPCD) that provides the procedures for addressing the following issues: Soil samples that exceed reactive organic compound (ROC) concentrations of 50 parts per million (ppm) require special soil handling procedures to be implemented under the plan. Those special soil vapor testing and handling procedures would include:

- 1. Assuring sufficient moisture content of the soil to prevent dust during soil movement;*
- 2. Covering excavated soil with tarps/impermeable coverings, or applying soil seal or “soil-sement” or equivalent, to minimize the generation of wind-blown dust as well as minimize ROC emissions;*
- 3. Conduct ROC monitoring every 15 minutes during excavation activities;*
- 4. The Plan shall include a compliance reporting schedule, a description of the information to be reported to the County, and include a sample report form.*

Submittal Timing: *Prior to County permit issuance. Approval Trigger:* *Issuance of County permit. Responsible Party:* *The Applicant or designee. What is required:* *Contaminated Soil Management Plan. To whom it is submitted and approved by:* *County Department of Planning and Building and SLOCAPCD.*

Residual Impacts

Mitigation measure HAZ.1-1 would reduce the potential for emissions from contaminated soils on site as well as minimize the migration of emissions off site, reducing the impact to the public. Further, the removal of contaminated soil would have the long-term benefit of permanently removing the potential for off-site migration of contamination. Therefore, the impacts associated with contaminated soils would be **less than significant with mitigation (Class II).**

Impact #	Impact Description	Residual Impact
HAZ.2	Threshold b): Would the Project create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	Class II

This impact addresses accidental releases of hazardous materials and includes releases of crude oil or other materials located within equipment, asbestos, and lead-based paint.

Accidental Releases from Equipment: The Project would involve the removal of equipment (tanks, pipelines, vessels, etc.) that could potentially contain hazardous materials, such as small quantities of crude oil or other materials, that could accidentally be released to the environment during the removal process. Equipment is planned to be purged and pipelines pigged prior to removal and various requirements related to equipment preparation would reduce the potential that accidental spills could occur. Even so, there is still the potential for accidental release of materials that remain in the equipment. Construction equipment also has an inventory of hydraulic oils and

diesel fuel that, if spilled, could potentially cause impacts. Any spill of materials, depending on the location, size, and extent of the spill, could cause an impact. Most spills would be contained on site within the existing facility berms and would not generate an impact. However, should a spill occur within or extend into an area defined as Environmentally Sensitive Habitat Areas (ESHA), potentially significant impacts could occur.

Accidental Release from Transportation: The transportation of contaminated soils by rail and truck would present a minimal hazard to the public since the contaminated soils are neither volatile nor a combustible liquid. Environmental impacts resulting from spills of contaminated soils would also be minimal as the contaminated soils are not fluids and would generally be contained within the specific accident site, thus unlikely to produce impacts away from the spill location. Therefore, transportation accidents involving contaminated soils would be less than significant.

Asbestos: Construction activities could encounter asbestos during the excavation and removal of pipelines and other equipment. The use of an asbestos minimization plan and a certified hazardous materials oversight specialist would minimize the potential for a release of asbestos to the environment to less than significant.

Naturally Occurring Asbestos: Serpentine rock is found in many regions of the County, including coastal areas, as far inland as Paso Robles, and the extreme eastern area along the San Andreas Fault. Figure 4.3-3 shows areas subject to the naturally occurring asbestos ATCM requirements. The Project site is not located in an area that is designated as requiring a naturally occurring asbestos analysis and as such most likely would not be subject to the SLOCAPCD requirements; consultation with the SLOCAPCD is still advised as per discussions with the SLOCAPCD.

Lead: Onshore facilities have been inventoried and sampled for the presence of lead-based paint with some paint testing for lead. The Project could also involve the removal of equipment painted with lead-based paint (see Chapter 2.0, Project Description).

Mitigation Measures

HAZ.2-1 Spill Response Planning: *The Applicant shall prepare an Oil/Hazardous Material Spill Contingency Plan (Spill Contingency Plan) (including provisions for spill prevention, control, and countermeasures/responses) that demonstrates that effective prevention, protection, containment, and clean-up equipment and procedures will be in place to protect coastal resources in the event of such spills. The Plan must, at a minimum include/identify:*

- 1. The sources of potential spills;*
- 2. Spill prevention measures to minimize the risk of such spills;*
- 3. A worst-case spill assessment, and identification of the coastal resources at risk from spill impacts at representative levels up to and including the worst-case spill;*
- 4. A response capability analysis of the equipment, personnel, and strategies (both on site and under contract) capable of responding to spills, again at representative levels up to and including the worst case spill;*

4.9 Hazards and Hazardous Materials

5. *Spill control, drainage and management at the Project site;*
6. *Spill notification procedures to be implemented in the event of a spill; and*
7. *The Plan shall include a compliance reporting schedule, describe the information to be reported to the County, and include a sample report form.*

The Spill Contingency Plan must adequately cover all activities related to facility demolition and remediation (both aboveground and belowground), as well as the handling, transfer, and transportation of materials (e.g., via truck and/or train, etc.) to off-site locations. It must identify the reporting thresholds and requirements and identify the person/party responsible for monitoring and implementing actions needed.

Submittal Timing: *Prior to County permit issuance. Approval Trigger:* *Issuance of County permit. Responsible Party:* *The Applicant or designee. What is required:* *Spill Contingency Plan. To whom it is submitted and approved by:* *California Coastal Commission, Central Coast Water Board, and County Department of Planning and Building.*

HAZ.2-2 Asbestos and Lead Handling Plan: *The Applicant shall comply with asbestos-containing material (ACM) and lead-containing materials handling requirements detailed in a ACM/Lead Handling Plan. Requirements of the plan shall include requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40 CFR 61, Subpart M - asbestos NESHAP) and those of the SLOCAPCD for lead. These requirements include but are not limited to:*

1. *Notification to the SLOCAPCD;*
2. *An asbestos survey conducted by a Certified Asbestos Inspector;*
3. *Applicable removal and disposal requirements of identified ACM. More information on asbestos is available at <http://www.slocleanair.org/business/asbestos.php>; and*
4. *Obtaining a SLOCAPCD permit, as necessary, for lead-based paint removal activities.*

Submittal Timing: *Prior to County demolition permit issuance. Approval Trigger:* *Issuance of County demolition permit. Responsible Party:* *The Applicant or designee. What is required:* *ACM and Lead Handling Plan. To whom it is submitted and approved by:* *SLOCAPCD and County Department of Planning and Building.*

Residual Impacts

The volume of oil that could be spilled from most of the spill scenarios would be in the order of a few barrels with spill distribution limited to the site and immediate area. Any such spills could be isolated, and with sufficient response planning and capabilities immediately available, impacts would be substantially reduced. Impacts would be less than significant with mitigation.

Use of an asbestos/lead paint plan and certified removal companies, as required by the SLOCAPCD and state regulations, will help to ensure that exposure to the public is minimized. Measures under state laws that prevent exposure of workers to asbestos and lead-based paint also reduce the exposure of the public to those contaminants. Asbestos abatement is overseen by the SLOCAPCD, and asbestos and lead removal are well-established construction techniques under state and federal requirements. Therefore, impacts would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
HAZ.3	Threshold c): Would the Project emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school?	Class III

The Project site proposed for removal of Project infrastructure and contaminated soils is not located within one quarter mile of an existing or proposed school. The closest schools are Lopez Continuation High School (1.5 miles), Pacific Academy (1.4 miles), and Mesa Middle School (2.2 miles) located to the north of the Project site. Therefore, impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
HAZ.4	Threshold d): Is the Project located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code §65962.5 and, as a result, would not create a significant hazard to the public or the environment?	Class II

The Project site is not listed as an active, open hazardous waste site pursuant to Government Code Section 65962.5 (DTSC 2023). The DTSC EnviroStor and the SWRCB GeoTracker databases indicate active cases at the facility site (SL203121248). Remediation actions, which are also part of this Project, are ongoing and overseen by the Central Coast Regional Water Quality Control Board (Central Coast Water Board). As cleanup of the site is part of this Project, the resulting cleanup would ensure impacts are removed and any future impact of either contaminated soils, or potential spills from remaining inventories (see impact HAZ.2 above) would be eliminated. However, failure to appropriately clean up the site or missing contaminated areas could potentially be a significant impact.

Mitigation Measures

*HAZ.4-1 **Sampling and Remediation Plan:** The Applicant shall develop a plan that includes sampling of soils and remediation details to ensure that all areas of the site are appropriately remediated. The plan shall address measures to be performed if groundwater is suspected to be contaminated and shall include a contaminated soil management plan. The plan shall include sampling intervals and patterns delineated on maps, and include all process, tank, and coke areas. It shall define testing requirements and methods, including testing for coke area leaching to ensure that groundwater is protected. It shall include measures to prevent runoff from contaminated soils during*

4.9 Hazards and Hazardous Materials

remediation activities. It shall define measures to be taken if additional contamination is discovered, such as in soils outside the site or in groundwater. It shall also define the management and containment and handling of contaminated soils. It shall also include sampling of proposed backfill materials analyzed for potential contaminants of concern to confirm that it is clean prior to use as backfill. The Plan shall include a compliance reporting schedule, describe information to be reported to the County and other agencies, and include a sample report form. The reports shall be provided monthly at a minimum.

Submittal Timing: Prior to County permit issuance. **Approval Trigger:** Issuance of County permit. **Responsible Party:** The Applicant or designee. **What is required:** Sampling and Remediation Plan. **To whom it is submitted and approved by:** Central Coast Water Board and County Department of Planning and Building.

Residual Impacts

Ensuring that the site is appropriately sampled would ensure that all contamination at the site is remediated. Impacts would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
HAZ.5	Threshold e): Is the Project located within an airport land use plan or within two miles of a public or public use airport?	Class III

The Project is not located with an airport land use plan nor within two miles of a public or public use airport. The closest airport is Oceano Airport located 4.3 miles to the north of the Project site. Impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
HAZ.6	Threshold f): Would the Project impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	Class III

Ingress and egress to the Project site is via access roads along Highway 1. The Project does not propose closing, blocking, or interfering with Highway 1 and the amount of truck traffic entering and exiting the SMR from/onto Highway 1 would be the same as, or less than, historical levels. Therefore, the traffic from the Project would not produce traffic levels exceeding maximum levels for area roadways, thereby not impacting Highway 1 or the access roads' ability to function as an egress route during an emergency. The Project would not interfere with any adopted evacuation or emergency response plan, and impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
HAZ.7	Threshold g): Would the Project not expose people or structures, either directly or indirectly, to a significant risk of loss, injury or death involving wildland fires?	Class II

The Project site is not located within a Very High Fire Hazard Severity Zone as designated by CAL FIRE/County Fire. The closest very high fire hazard area is located to the north of the Project site, north and west of Willow Road about 1/3 mile north of the SMR entrance roadway. (OSFM 2023). See Section 4.16, Wildfire, for more information on area fire hazard zones.

There is the potential for a fire to occur during the demolition or remediation phase of the Project, spreading to areas near the site. The ability to ensure proper firefighting equipment and water supplies during this phase of the Project would be an important measure to ensure proper response to any fire issues. The existing facility has a fire water system in place and an emergency response plan. Concerns expressed by CAL FIRE/County Fire during the Notice of Preparation (NOP) process are reflected in mitigation measure HAZ.7-1 below. Addressing these concerns and maintenance of these systems and coordination with the fire department on fire response capabilities on site would be important. Lack of response capabilities could have a potentially significant impact.

Mitigation Measures

HAZ.7-1 Fire Response Planning: The Applicant shall ensure that fire response capabilities are in place during the entire Project, including the following:

- 1. All construction/demolition plans and use of the facility shall comply with all applicable standards, regulations, codes, and ordinances at time of Building Permit issuance;*
- 2. A registered Fire Protection Engineer is required to provide a written technical analysis of the fire protection requirements for the demolition of the structures under each permit;*
- 3. Project has existing water service that will need to be maintained and tested to NFPA 25 California addition;*
- 4. Access roads shall be maintained to support apparatus weighing 75,000 lbs. Access to structures during the Project will remain open;*
- 5. Provide fire department access roads to within 150 feet of any exterior portion of the buildings as measured by an approved route around the exterior of the building or facility;*
- 6. Gates for driveways and/or roadways shall comply with the California Fire Code (CFC) Sec. 503;*
- 7. Fire hydrants shaft be tested and maintained per NFPA 25 2016 edition during demolition;*

4.9 Hazards and Hazardous Materials

8. *Commercial - Fire Department Connections (FDC) for automatic sprinkler systems shall be located fully visible and recognizable from the street or fire apparatus access roads;*
9. *Fire equipment to remain in service until last possible minute. Ex. Fire Sprinklers/standpipes/hydrants etc. CFC 905 & Chapter 33 buildings being demolished will require fire protection systems to remain in operations with NFPA 25- California for testing and maintenance;*
10. *All buildings shall comply with CFC, Chapter 10 Means of Egress requirements. Including but not limited to; exit signs, exit doors, exit hardware and exit illumination. Additional egress requirements for demolition will be referenced in CFC Chapter 33;*
11. *Provide 100 feet of defensible space around all structures. This Project will develop and maintain a wildland fuel management program to provide fire safe zones around the facility and access roads. CFC Ch. 49 Wildland-Urban Interface Areas;*
12. *All demolition will meet CFC Chapter 33 and NFPA 241 references;*
13. *Project shall have a Hazardous Material Plan that addresses CFC Chapter 50. CFC 5001 and Facility Closer. 5001.5.2 Inventory Statement;*
14. *Cutting and welding shall comply with CFC 3304.6 and NFPA 51B;*
15. *Fire Watch shall conform to CFC 3304.5;*
16. *Approved vehicle access for firefighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available;*
17. *Include with plans upon submittal the signed agreed upon operational plan stated in Project Description;*
18. *Fire extinguishers are required in accordance with CFC 3315 and 906;*
19. *All construction equipment used for any vegetation clearing shall be equipped with spark arrestors, and monitoring and training to prevent vehicle traffic off roadways to ensure activities do not impact dry brush and lead to fire;*
20. *Requirements shall be posted at all construction areas and placed on construction plans; and*
21. *If firefighting foam is proposed for use, it shall be PFAS-free.*

Submittal Timing: Prior to County permit issuance. **Approval Trigger:** Issuance of County permit. **Responsible Party:** The Applicant or designee. **What is required:** Fire Response Assessments, a Wildland Fuel Management Program, and description of

capabilities noted on all construction plans. To whom it is submitted and approved by: CAL FIRE/County Fire and County Department of Planning and Building.

Residual Impacts

Ensuring that firefighting capabilities are not compromised during the Project, and that coordination with the fire department and access to fire water supplies and equipment are maintained during the Project, would ensure that any response to a fire at the facility would be effective and efficient. Impacts would be **less than significant with mitigation (Class II)**.

4.9.6 Mitigation Measure Impacts to Other Issue Areas

Mitigation measures are primarily related to planning and management of potential exposure to contaminated soils, asbestos, and lead, potential spills impacts, and potential fire impacts to nearby areas. None of the mitigation measures would generate potential impacts to other issues areas.

4.9.7 Cumulative Impacts

Cumulative projects are discussed in Chapter 3.0, Cumulative Study Area. Cumulative projects are discussed below.

Ongoing SMR projects, including the Slop Oil Line Release and the NIWS remediation projects and the remaining facilities off-site projects (Summit Pump Station and Santa Maria Pump Station), would continue remediation efforts and would not have a cumulative impact for hazardous materials.

Other projects in the area, such as the Arroyo Grande Oil Field, Caballero Battery project or the Dana Reserve development projects, or the Santa Barbara County projects, would entail the development in the area and could contribute to increases in traffic levels or potential spill risks in the area. However, as the Project would involve minimal on-site spill risks and hazards, a cumulative impact would not occur.

Roadway projects would not entail the use of large amounts of hazardous materials and would therefore not produce cumulative impacts.

4.9.8 References

California Department of Toxic Substances Control (DTSC). 2023. Department of Toxic Substances Control, EnviroStor database mapping. Available at: <https://www.envirostor.dtsc.ca.gov/public/map/>.

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4.9 Hazards and Hazardous Materials

<https://www.slocounty.ca.gov/Departments/Planning-Building/Forms-Documents/Plans-and-Elements/Elements/Agriculture-Element.pdf>. Accessed June 2023.

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GeoTracker. 2024. Online database. Available at: <https://geotracker.waterboards.ca.gov/>. Accessed February 2024.

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4.10 Hydrology and Water Quality

This section addresses issues involving potential impacts to hydrology and water quality resulting from the Project. The environmental setting provides information on surface water and groundwater in the vicinity of the Project site. This section also describes the regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition and remediation of the site, followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

4.10.1 Environmental Setting

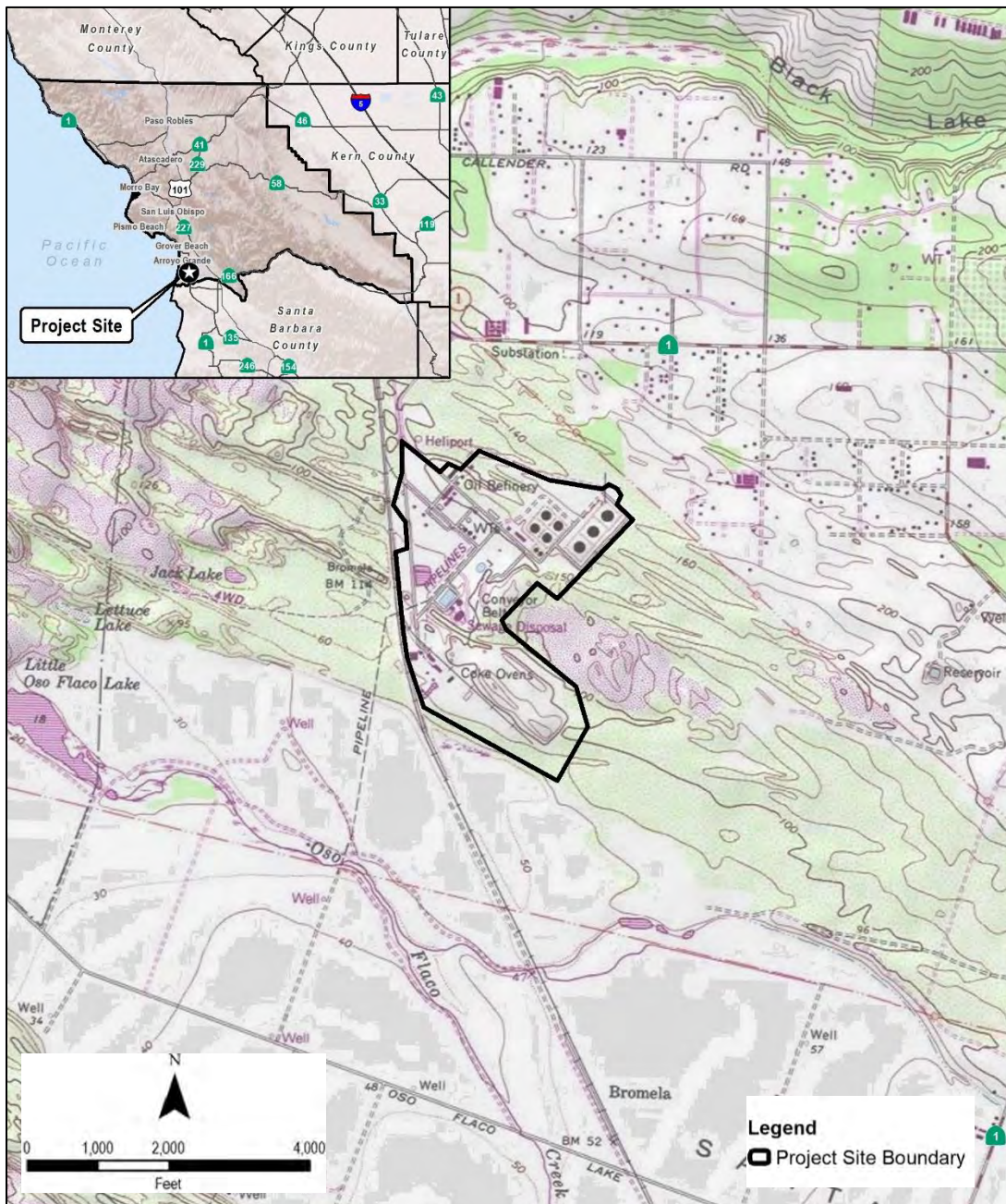
4.10.1.1 Topography and Drainage

The Project site is located on undulating dune topography, with elevations ranging from approximately 100 to 180 feet above mean sea level (Figure 4.10-1). The overall slope gradient is to the southwest, toward Oso Flaco Creek, located approximately 0.6 mile southwest of the Project site, at the closest point. Slope gradients within the Project site are predominantly gentle, with localized steeper slopes up to 30 feet high where the topography has been modified by grading. The engineered slope gradients are generally 2:1 (horizontal to vertical) or flatter. Spill containment berms are constructed around aboveground storage tanks. In addition, a large evaporation/percolation basin (“Evaporation Pond” in Area 5, Figure 2-3) with engineered side slopes is located in the southwest part of the site.

The soils underlying the Project site are Oceano sands, which are derived from old sand dune deposits. The soils have slow surface runoff and are excessively drained, with a high capacity to transmit water (USDA NRCS 2023; USDA SCS 1984). Due to the high infiltration rates, most precipitation on the dune deposits percolates into the soil with minimal runoff, flooding, ponding, or erosion. In addition, the Santa Maria Refinery (SMR) site topography is generally graded inward. This condition supports retention and infiltration of stormwater that flows off of equipment pads and minimizes potential for off-site runoff. The highly permeable sandy soils and site topography result in no observable stormwater runoff from the facility. Even during heavy rainfall, stormwater runoff from the operations pads infiltrates soon after encountering the surrounding sandy soil, and there is no observable overland flow or stormwater runoff. The infiltration capacity of the dune sand soils and the absence of runoff are clearly demonstrated through direct observations and a 2015 carbon plant no-discharge analysis (Order 2014-0057-DWQ; see Chapter 2.0, Project Description).

4.10 Hydrology and Water Quality

Figure 4.10-1 Regional Topography and Drainage of Project Area



Source: USGS 7.5-minute quads

The wastewater outfall line originates at the water effluent treatment (WET) plant (see Area 7 in Figure 2-3) and runs west through the Pismo/Oceano dunes for two miles to the shoreline and then terminates at a seafloor diffuser located 0.5 mile offshore at a surveyed depth of approximately 38 feet below mean sea level in the Pacific Ocean and is subject to a State Lands lease (see Appendix A). Inshore portions of the outfall line corridor lie beneath a zone of shallow sand bars and breaking waves. The nearshore environment features a broad sand beach, which is exposed to the prevailing northwesterly wind and swells (Tenera/Stantec 2023). Active sand dunes between the intertidal

zone and the SMR consist of a series of parallel ridges generally aligned perpendicular to the prevailing west-northwesterly winds. The topography of the older dune sands, which comprise the sediments along the eastern portion of the outfall line, generally consists of broad west-northwest trending drainages and intervening broad ridges.

Oso Flaco Creek terminates in Little Oso Flaco Lake (Figure 4.10-1), 0.25 mile from the Pacific Ocean. Oso Flaco Creek and its tributary Little Oso Flaco Creek are mostly channelized and generally flow year-round, supported by irrigation tailwater runoff. Portions of the Phillips 66-owned parcels 092-401-011 and 092-401-013 are within the 100-year floodplain. However, the Project site is located outside the 100-year Flood Hazard Zone (Figure 4.10-2) (FEMA 2023). Similarly, the Project site is not within a dam inundation area (County 1999).

4.10.1.2 Surface Water Quality

The overall slope gradient of the Project site is to the southwest, toward Oso Flaco Creek, located approximately 0.6 mile southwest of the Project site, at the closest point. Although located within the Santa Maria Valley, Oso Flaco Creek is not part of the Santa Maria River Watershed. The creek originates in agricultural fields north of the Santa Maria River Estuary. The Oso Flaco Creek Watershed encompasses approximately 10,370 acres. Land use within the watershed is primarily irrigated vegetable row crops. Beneficial uses of Oso Flaco Creek, as established in the Central Coast Water Quality Control Plan for the Central Coastal Basin (Basin Plan), include municipal/domestic supply; agricultural supply; groundwater recharge; recreation (contact and non-contact); wildlife habitat; warm freshwater habitat; preservation of biological habitats of special significance; rare, threatened, or endangered species; freshwater replenishment; and commercial and sport fishing (Central Coast Water Board 2019).

Under Clean Water Act Section 303(d), the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. Oso Flaco Creek and its tributary Little Oso Flaco Creek are listed by the U.S. Environmental Protection Agency (U.S. EPA) as 303(d) Impaired Water Bodies, for which a Total Maximum Daily Load (TMDL) must be established. TMDLs define how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. Oso Flaco Creek and its tributary Little Oso Flaco Creek are listed as Impaired Water Bodies based on high levels of ammonia, chloride, chlorpyrifos, fecal coliform, malathion, nitrates, sodium, toxicity, and turbidity (SWRCB 2023a).

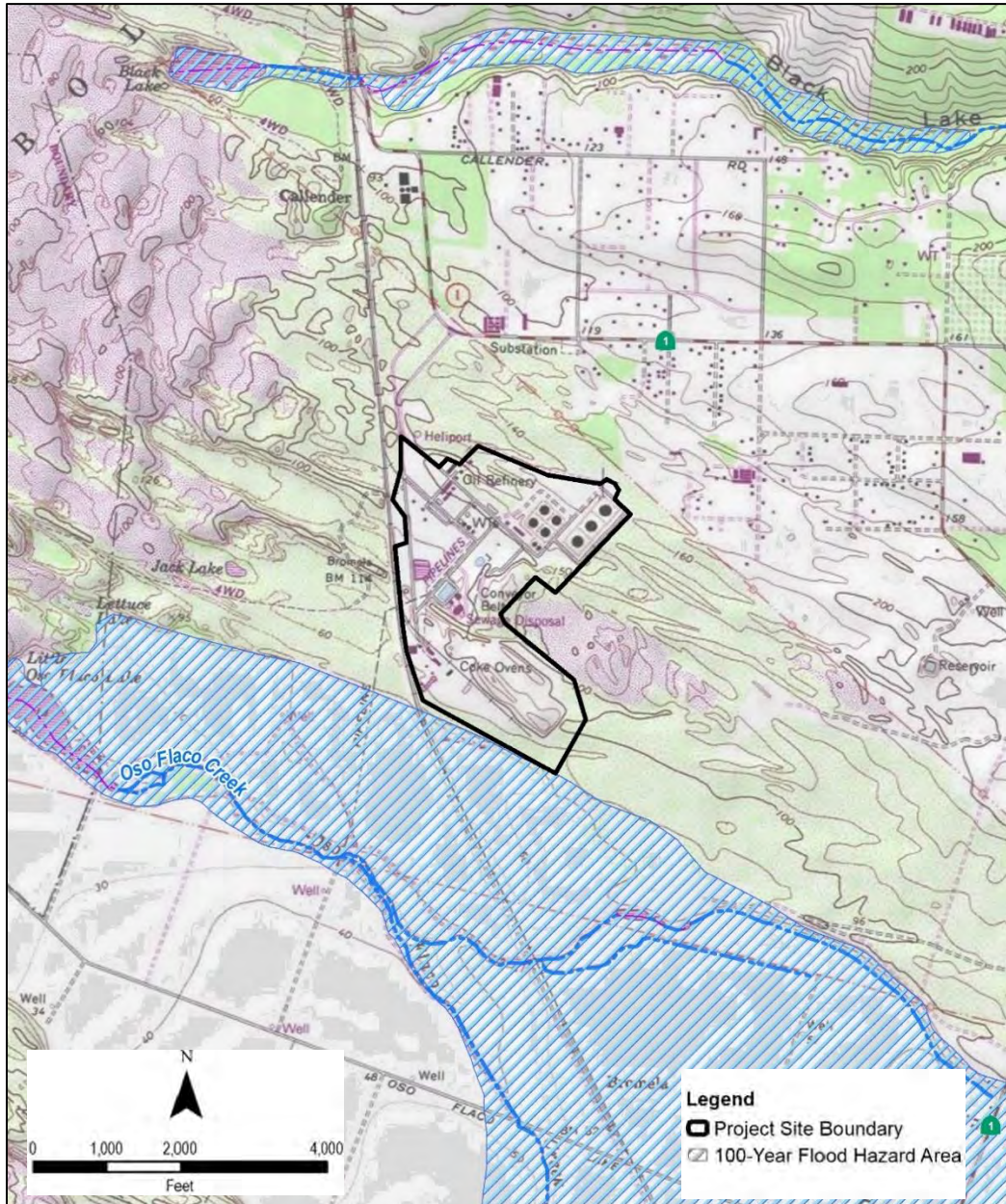
The downstream Little Oso Flaco Lake is the largest of four small freshwater lakes located in the Guadalupe Nipomo Dunes Complex. Little Oso Flaco Lake occupies a surface area of 82 acres and is classified by the U.S. Fish and Wildlife Service as palustrine (i.e., inland, non-tidal) emergent wetlands, a valuable habitat for wildlife and subsequently a resource for many recreational and educational activities (County 2015).

The SMR maintains two separate stormwater collection systems for contact and non-contact stormwater. Contact stormwater is precipitation runoff from areas within the tank berms and from the operating units or other areas, where the runoff could become contaminated. As discussed in Chapter 2.0, Project Description, non-contact stormwater management for the SMR's existing operations is covered under Individual National Pollutant Discharge Elimination System (NPDES)

4.10 Hydrology and Water Quality

Permit #CA0000051. Non-contact stormwater from streets in an unimproved area, not subject to oil spills, is collected in a non-contact storm water sewer system and flows by gravity to an evaporation pond. This non-contact storm water is discussed below and is not discharged through the outfall pipeline.

Figure 4.10-2 100-Year Flood Hazard Zone for Oso Flaco Creek



Source: USGS 7.5-minute quads, FEMA 2023

Process wastewater and contact stormwater are treated in the WET plant. Treated effluent from the WET plant is regulated by Waste Discharge Requirements Order No. R3-2013-0028, National Pollutant Discharge Elimination System (NPDES) Permit No. CA0000051). NPDES Permit R3-2013-0028, allows the SMR to discharge up to 0.575 million gallons per day of treated production

wastewater and contact stormwater to the outfall pipeline. Most process units and operations areas are located on concrete pads, and tanks have containment berms. Oily wastewater collects in drains within the process areas and routes through an oily-water collection system to an oil/water separator and then to the WET plant.

The WET plant consists of two surge tanks, dissolved air flotation, a trickling filter, an Orbal aeration system, and a secondary clarifier. Sludge generated by the treatment processes is recycled at the coking facility. In 2023, with the shutdown of SMR processes, the Central Coast Regional Water Quality Control Board (Central Coast Water Board) approved the use of the facility's industrial water to supplement flows to sustain the water effluent treatment plant's biological treatment process.

Treated wastewater from the WET plant is permitted to discharge through the outfall and diffuser system to Discharge Point #001 in the Pacific Ocean. This discharge pipeline is comprised of 12-inch- to 14-inch-diameter pipe that originates at the wastewater plant and runs west through the Pismo/Oceano dunes for two miles to the shoreline and then terminates at a seafloor diffuser located 0.5 mile offshore in State Lands lease (see Appendix A). In January 2024, the dissolve air floatation process was taken offline completely due to the lack of oily wastewater influent. Operations of the WET plant and subsequently NPDES Permit No. R3-2013-0028 are estimated to terminate completely in 2024 and will require a Central Coast Water Board hearing and approval. The outfall pipeline will be capped and remain in place.

Non-contact stormwater is stormwater that flows off of SMR access roads, hardscape areas, and unimproved areas not in contact with process equipment, raw materials, or product, or within the oil storage tank containment areas. Non-contact stormwater collects in the non-contact stormwater sewer system and flows by gravity to an evaporation/percolation basin (Evaporation Pond, Area 5, see Figure 2-3). Non-contact stormwater does not discharge to the ocean outfall.

Stormwater at the carbon plant is managed independently of the SMR individual permit. There is no stormwater runoff from the carbon plant. Stormwater management at the carbon plant is the subject of a 2015 no-discharge determination (Order 2014-0057-DWQ) that will remain in effect during facility shutdown and decontamination, and during demolition. As previously discussed, the inward grade and soil conditions at the carbon plant result in retention and infiltration of stormwater that flows off of equipment pads. Analysis and observations demonstrate the infiltration capacity of the dune sand soils and the absence of runoff.

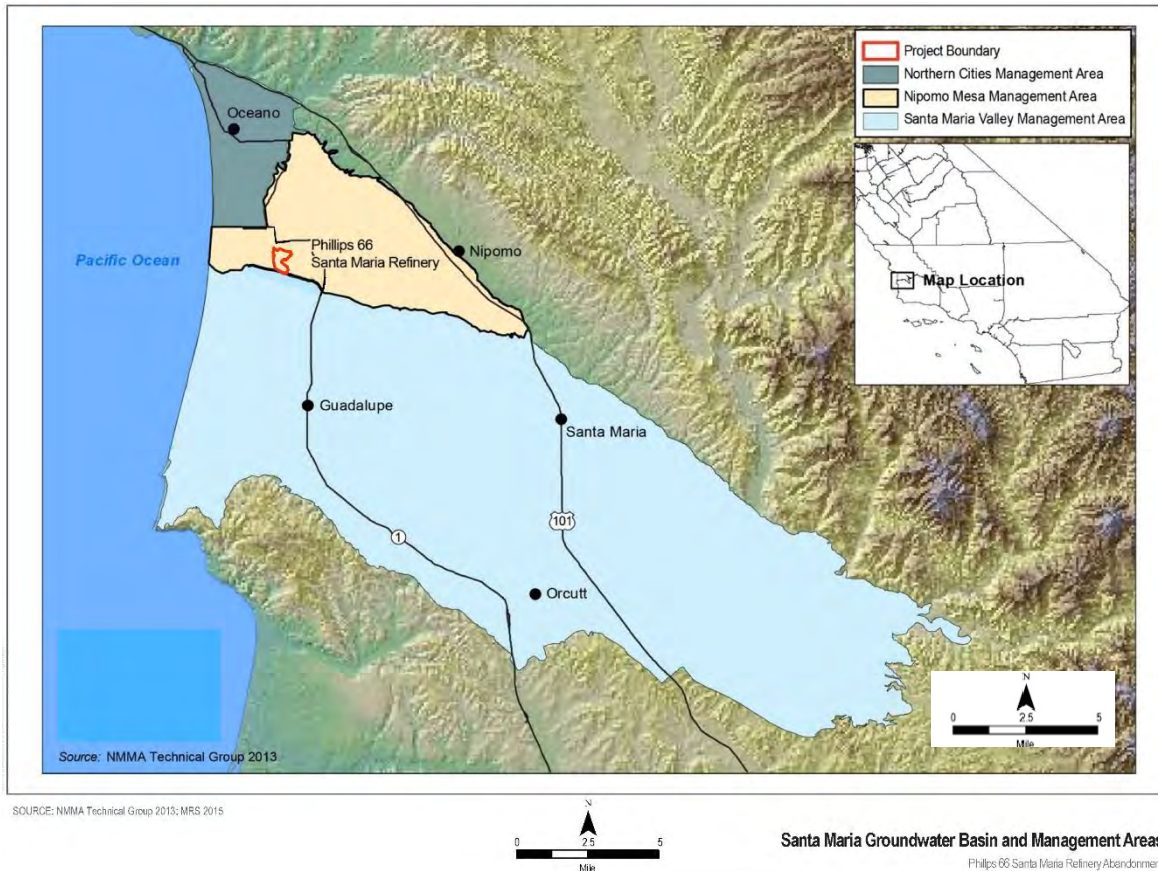
4.10.1.3 Groundwater Supply

The SMR extracts groundwater from the Nipomo Mesa Management Area (NMMA) of the Santa Maria Groundwater Basin (Figure 4.10-3). The source of groundwater for the SMR wells is the deep aquifer in the Paso Robles and Careaga formations underlying the Nipomo Mesa. The deep aquifer is also the main source of water for surrounding municipal and agricultural wells. The shallow aquifer in the Nipomo Mesa sand dunes is utilized by lower capacity domestic and agricultural wells. The uppermost groundwater zone beneath the SMR is unconfined and based on groundwater monitoring data occurs at elevations ranging from approximately 40 to 50 feet above mean sea level (amsl). As per Trihydro well monitoring reports on Geotracker (ID SL203121248),

4.10 Hydrology and Water Quality

depths to groundwater range from 23 feet at the southernmost end of the site (well MW-32R) to about 90 feet at the north end of the site (well MW-56). Deeper and more permeable sections of the Paso Robles Formation form the second groundwater zone and are located 384 and 200 feet below ground surface. The shallow and deep aquifers underlying the SMR are separated by relatively low hydraulic conductivity layers that act as confining layers in the NMMA (NMMA TG 2023).

Figure 4.10-3 Santa Maria Groundwater Basin and Management Areas



Source: NMMA TG 2023; County 2015

The SMR has historically obtained all of its water from on-site groundwater wells. Water is primarily used for cooling, boiler feed for steam production, and process use such as removing coke from the coke drums.

The Santa Maria Groundwater Basin has been the subject of extensive litigation due to depression in groundwater elevations within the Basin and on the Nipomo Mesa. The County's Water Resources Advisory Committee has determined that overdraft in the Nipomo Mesa either currently exists or is imminent. Based on the Judgment after Trial of the Santa Maria Groundwater Litigation, Phillips 66 has rights to the reasonable and beneficial use of groundwater without limitation, except in the event of a Severe Water Shortage Condition, in which case water rights would be limited to no more than 110 percent of the highest amount it previously used in a single year.

As previously discussed in Section 2.3.5, Existing Water Use, water use data for the SMR are reported annually in the NMMA Annual Report for this adjudicated basin. Annual reports for the 14-year period 2008 through 2022 are available online at: <https://ncsd.ca.gov/resources/reports-by-subject/#nmma>. As noted in the six most recent annual reports, the calendar year groundwater production for the SMR has been consistent at 1,100 acre-feet per year (AFY). Refer to Table 3-3 of the 2017 report, and Table 3-4 of the 2018, 2019, 2020, 2021, and 2022 reports.

As noted in Section 4.2.3 of the 2022 report (submitted April 2023):

The P66 refinery expects future production to be similar to recent years' production amounts of approximately 1,100 AFY.

This volume is equivalent to approximately 358 million gallons per year (at 325,800 gallons per acre-foot) or an average of 982,000 gallons per day.

4.10.1.4 Groundwater Quality

One of the main threats to groundwater in the NMMA is the potential for seawater intrusion in the coastal portions of the aquifer. Evaluating seawater intrusion risk depends on knowledge of the groundwater levels, depth of the aquifers, structural geology/stratigraphy, and the location of the seawater-freshwater interface. The potential for seawater intrusion is minimized when there is sufficient subsurface groundwater flow toward the ocean, which can be monitored using groundwater elevations to determine the offshore gradient. If the onshore aquifers are pumped in excess of replenishment, the groundwater flow direction could reverse, and seawater intrusion could eventually occur (NMMA TG 2023). However, a substantial lag time may be present between excessive pumping-induced groundwater gradient reversal and seawater intrusion into the freshwater aquifer.

A series of coastal sentry wells are monitored regularly for seawater intrusion and reported publicly. To date, there has been no increase in chloride concentrations (indicative of seawater intrusion) in the coastal sentry wells. The 2022 NMMA report concluded that there is no evidence of seawater intrusion in the NMMA portion of the Santa Maria Groundwater Basin (NMMA TG 2023).

Groundwater quality monitoring has identified localized areas of the NMMA with nitrate concentrations greater than drinking water standards. Nitrate contamination can occur beneath agricultural lands as a result of leaching fertilizer-rich soil into underlying groundwater. In addition, one of the Phillips 66 wells reported a high (1,000 mg/l) total dissolved solids (TDS) concentration, which exceeds secondary drinking water standards. However, the well is only used for industrial processing. Chloride and TDS concentrations in groundwater samples from shallow dune sand wells have exhibited elevated nitrate concentrations or increasing salinity (NMMA TG 2023; Carollo Engineers 2012).

As discussed in Chapter 2.0, Project Description, and discussed in more detail in Section 4.9, Hazards and Hazardous Materials, soil and groundwater have historically been contaminated as a result of releases in several areas of the SMR. Phillips 66 is currently coordinating its investigation and remediation programs with the Central Coast Water Board.

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The Slop Oil Line Release impacted both soil and groundwater (Figure 2-10). The release was discovered in April 2016 and subsequent investigations discovered that a light non-aqueous phase liquid (LNAPL) plume covers approximately 3.7 acres beneath the central portion of the SMR. The cleanup activities are performed under Central Coast Water Board oversight (GeoTracker Case #SL203121248). Manual extraction of LNAPL was conducted as an interim remediation measure. A long-term Hydrocarbon Recovery System, referred to as the SMR Groundwater Remediation Project (GWRP), was installed and the system was brought online in April 2023 as part of the Slop Oil Line Release remediation activities. Central Coast Water Board staff will continue to oversee implementation of the Slop Oil Line Release remediation activities and the post-remediation groundwater monitoring activities and will determine when the cleanup is complete. The SMR GWRP consists of 12 recovery wells, seven monitoring wells, a 15-horsepower air compressor, and a 1,380-barrel aboveground holding tank.

Based on groundwater sampling, with the exception of a small area around a runoff pond, referred to as the “BC-4 area” (Figure 2-10), groundwater beneath the former carbon plant and coke pile area had minimal to non-detectable concentrations of contaminants. Beneath the BC-4 area, biogeochemical processes were potentially causing low pH in groundwater that periodically mobilized metals in soil, raising metal concentrations in groundwater.

As discussed in Chapter 2.0, Project Description, the SMR conducts a site-wide groundwater monitoring program (Monitoring and Reporting Program [MRP] No. R3-2008-0700) that has been in place for over two decades. Data is collected semiannually, with monitoring reports viewable through GeoTracker (Case #SL203121248) (SWRCB 2023b). MRP No. R3-2008-0070 was revised by the Central Coast Water Board and issued on March 28, 2023. Based on the most recent ten years of groundwater data, with the exception of periodic impacts on groundwater in the BC-4 area and groundwater impacted by the Slop Oil Line Release, there is limited evidence of groundwater impacts elsewhere beneath the site that necessitate remediation. However, the additional sitewide sampling performed as part of the Project may identify additional areas where groundwater impacts need to be investigated. Additionally, the extent of per- and polyfluoroalkyl substances (PFAS) identified in soil and groundwater during initial site investigation activities in 2022 have not been fully delineated.

4.10.2 Regulatory Setting

4.10.2.1 Federal Regulations

Clean Water Act

The Clean Water Act (CWA), as amended by the Water Quality Act of 1987, is the major federal legislation governing water quality (33 United States Code Section 1251 et seq.). The objective of the CWA is “to restore and maintain the chemical, physical, and biological integrity of the Nation’s waters.” The CWA establishes basic guidelines for regulating discharges of both point and non-point sources of pollutants into the waters of the United States. The CWA requires that states adopt water quality standards to protect public health, enhance the quality of water resources, and ensure implementation of the CWA. Commonly relevant sections of the act are as follows:

Sections 303 and 304 provide for water quality standards, criteria, and guidelines. Under Section 303(d) of the CWA, the State of California is required to develop a list of impaired water bodies that do not meet water quality standards and objectives. California is required to establish TMDLs for each pollutant/stressor. A TMDL defines how much of a specific pollutant/stressor a given water body can tolerate and still meet relevant water quality standards. Once a water body is placed on the Section 303(d) List of Water Quality Limited Segments, it remains on the list until a TMDL is adopted and the water quality standards are attained, or there is sufficient data to demonstrate that water quality standards have been met and delisting from the Section 303(d) list should take place.

Section 401 (Water Quality Certification) indicates that a federal agency may not issue a permit or license to conduct any activity that may result in any discharge into waters of the United States unless a Section 401 water quality certification is issued, verifying compliance with water quality requirements, or waiving such a certification. States where the discharge would originate are generally responsible for issuing water quality certifications. CWA Section 404 permits (see description below) are subject to Section 401 certification.

Section 402 (National Pollutant Discharge Elimination System) establishes the NPDES, a permitting system for the discharge of any pollutant (except for dredged or fill material) into waters of the United States. This permit program is administered by the State Water Resources Control Board (SWRCB) and the nine RWQCBs, who have several programs that implement individual and general permits related to construction activities, stormwater runoff quality, and various kinds of non-stormwater discharges. The NPDES General Construction Permit is discussed in Section 4.10.2.2, State Regulations. In general, in California, a NPDES permit also provides waste discharge requirements, although waste discharge requirements can be issued for discharges that are not within the coverage of the Section 402 NPDES program.

The Municipal Stormwater Permitting Program under CWA Section 402 regulates stormwater discharges from municipal separate storm sewer systems (MS4s). MS4 permits are issued in two phases: Phase I, for medium and large municipalities, and Phase II for small municipalities. The Phase II Small MS4 General Permit requires the discharger to develop and implement best management practices (BMPs) through a coordinated storm water program with the goal of reducing the discharge of pollutants to the maximum extent practicable, which is the performance standard specified in Section 402(p) of the CWA. See Section 4.10.2.3, Local Regulations, for the County's Stormwater Management Program.

Section 404 (Discharge of Dredged or Fill Material into Waters of the United States) establishes a permit program for the discharge of dredged or fill material into waters of the United States. This permit program is jointly administered by the U.S. Army Corps of Engineers (USACE) and U.S. EPA. A Section 401 water quality certification generally is necessary for a Section 404 permit.

Numerous agencies have responsibilities for administration and enforcement of the CWA. At the federal level, this includes the U.S. EPA, USACE, and the major federal land management agencies such as the U.S. Forest Service and Bureau of Land Management. At the state level, with the exception of tribal lands, the California Environmental Protection Agency (CalEPA) and its sub-agencies, including the SWRCB and the nine RWQCBs, have been delegated primary

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responsibility for administering and enforcing certain provisions of the CWA. The Central Coast Water Board is the state agency that implements the CWA and has the primary enforcement responsibility under the CWA for this project.

Federal Antidegradation Policy

The Federal Antidegradation Policy (40 Code of Federal Regulations 131.12), first included in U.S. EPA's regulations in 1983, is designed to protect water quality and water resources. The policy requires states to develop statewide antidegradation policies and identify methods for implementing those policies. State antidegradation policies and implementation measures must include the following provisions: (1) existing instream uses and the water quality necessary to protect those uses shall be maintained and protected; (2) where existing water quality is better than necessary to support fishing and swimming conditions, that quality shall be maintained and protected unless the state finds that allowing lower water quality is necessary for important local economic or social development; and (3) where high-quality waters constitute an outstanding national resource, such as waters of national and state parks, wildlife refuges, and waters of exceptional recreational or ecological significance, that water quality shall be maintained and protected. State permitting actions must be consistent with the Federal Antidegradation Policy.

4.10.2.2 State Regulations

Porter–Cologne Water Quality Control Act

The Porter–Cologne Water Quality Control Act (first codified in the California Water Code Section 13000 et seq. in 1969) is the primary water quality control law for California. Whereas the CWA applies to all waters of the United States, the Porter–Cologne Act applies to both waters of the state and federal waters within California, including but not limited to isolated wetlands and groundwater in addition to federal waters. The act requires a Report of Waste Discharge for any discharge of waste (liquid, solid, or otherwise) to land or surface waters that may impair a beneficial use of surface or groundwater of the state. For discharges directly to surface water (waters of the United States) from a point source, a NPDES permit is required, which is issued under both state and federal law. For other types of discharges, such as waste discharges to land (e.g., spoils disposal and storage), erosion from soil disturbance, or discharges to waters of the state (e.g., groundwater and isolated wetlands), waste discharge requirements are issued exclusively under state law. Waste discharge requirements typically require many of the same BMPs and pollution control technologies as NPDES permits.

California Antidegradation Policy

The California Antidegradation Policy, otherwise known as the Statement of Policy with Respect to Maintaining High Quality Water in California, was adopted by the SWRCB (State Board Resolution No. 68-16) in 1968. Unlike the Federal Antidegradation Policy, the California Antidegradation Policy applies to all waters of the state, not just surface waters. The policy requires that, with limited exceptions, whenever the existing quality of a water body is better than the quality established in individual basin plans, such high-quality water must be maintained and discharges to that water body must not unreasonably affect any present or anticipated beneficial use of the water resource. As stated in the Central Coast Water Board Basin Plan (2019), “discharge of waste to high quality waters must apply best practicable treatment or control not

only to prevent a condition of pollution or nuisance from occurring, but also to maintain the highest water quality possible consistent with the maximum benefit to the people of the State.”

State Water Resources Control Board Resolution 92-49

The State Water Resources Control Board’s Resolution 92-49 sets forth the policies and procedures for investigation and cleanup and abatement of discharges of waste to the waters of the State. It requires cleanup to background levels, unless background levels of water quality cannot be restored. If background levels cannot be restored, dischargers must clean up to the best water quality which is reasonable, which takes into account technological and economic feasibility.

Water Quality Control Plan for the Central Coastal Basin

The Porter–Cologne Water Quality Control Act sets forth the obligations of the SWRCB and RWQCBs to adopt and periodically update water quality control plans (Basin Plans), in which beneficial uses and water quality objectives are established, and which include implementation programs and policies to achieve those objectives (California Water Code Sections 13240 through 13247). Of particular importance to the Project is the Basin Plan’s water quality objective for turbidity, which states that an “increase in turbidity attributable to controllable water quality factors shall not exceed the following limits:

1. Where natural turbidity is between 0 and 50 nephelometric turbidity units (NTU), increases shall not exceed 20%;
2. Where natural turbidity is between 50 and 100 NTU, increases shall not exceed 10 NTU; or
3. Where natural turbidity is greater than 100 NTU, increases shall not exceed 10%” (Central Coast Water Board 2019).

Another important part of the Basin Plan that applies to the Project includes the Spills, Leaks, Investigations, and Cleanup Program (Site Cleanup Program) which was established to allow Regional Boards to address water quality problems and potential problems resulting from discharges not covered by other State programs. Investigations proceed as described in State Board Resolution 92-49 referenced above.

Construction General Permit (SWRCB Order No. 2009-0009-DWQ, as Amended)

For stormwater discharges associated with construction activity in the State of California, the SWRCB has adopted and administers the NPDES General Permit for Stormwater Discharges Associated with Construction and Land Disturbance Activities (Construction General Permit) to avoid and minimize water quality impacts attributable to such activities. The Construction General Permit applies to all projects in which construction activity disturbs one acre or more of soil. Construction activity subject to this permit includes clearing, grading, and disturbances to the ground, such as stockpiling and excavation. One of the Construction General Permit requirements is the development and implementation of a stormwater pollution prevention plan (SWPPP), which would specify water quality BMPs also designed to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the site. Routine inspection of all BMPs is required under the provisions of the Construction General Permit, and the SWPPP must be prepared and implemented by qualified individuals as defined by the SWRCB.

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To receive coverage under the Construction General Permit, the project proponent must submit a Notice of Intent and permit registration documents to the SWRCB and applicable RWQCB through the Water Boards Stormwater Multiple Application & Report Tracking System (SMARTS). Permit registration documents include completing a construction site risk assessment to determine appropriate coverage level; detailed site maps showing disturbance area, drainage area, and BMP types/locations; the SWPPP; and, where applicable, post-construction water balance calculations and active treatment systems design documentation. These documents may also be subject to review by the Central Coast Water Board's Stormwater Program to ensure that they meet all requirements of the Construction General Permit.

Sustainable Groundwater Management Act

In 2014, California enacted the "Sustainable Groundwater Management Act" (California Water Code Sections 10720-10737.8 et seq.) to bring the state's groundwater basins into a more sustainable regime of pumping and recharge. The legislation provides for the sustainable management of groundwater through the formation of local groundwater sustainability agencies and the development and implementation of Groundwater Sustainability Plans (GSPs). GSPs were required to be submitted to the State Department of Water Resources (DWR) by January 31, 2020, for all basins designated as high- or medium-priority basins and basins that are subject to critical conditions of overdraft. GSPs were required to be submitted to the DWR by January 31, 2022, for all other high- or medium-priority basins. As previously discussed in Section 4.10.1.3, Groundwater Supply, the Santa Maria Groundwater Basin is an adjudicated basin and is subject to the Judgment after Trial of the Santa Maria Groundwater Litigation. As a result, the Sustainable Groundwater Management Act is not applicable to the Project area.

4.10.2.3 Local Regulations

County of San Luis Obispo

The County of San Luis Obispo (County) Department of Planning and Building administers state and federal pollution prevention policies for stormwater runoff, verifying that appropriate stormwater permits and plans are in place prior to the commencement of construction. The Department of Planning and Building are also required to track the long-term operation and maintenance of post-construction stormwater control measures installed within the County's Stormwater Management Area. The Central Coast Post-Construction Requirements (Resolution R-3-2013-0032) order the County to establish operation and maintenance plans with private stormwater system owners. The County records plans that comply with the requirements, which document the existence of all structures and require maintenance and operation in perpetuity by any future owners.

The County Water Resources Division is the County's management authority to ensure sustainable water uses, reliable water supplies, and better water quality. The Water Resources Division has incorporated the Integrated Regional Water Management Plan, which is a collaborative effort to manage all aspects of water resources in the region with statewide water planning efforts.

4.10.3 Thresholds of Significance

The following significance criteria for hydrology and water quality have been derived from the State California Environmental Quality Act (CEQA) Guidelines (Appendix G, Environmental Checklist Form, Section IX), as well as the County’s Environmental Checklist. Impacts of the Project would be considered significant and would require mitigation if the Project would:

- a. Violate any water quality standards, discharge into surface waters, or otherwise alter surface water quality (e.g., turbidity, sediment, temperature, dissolved oxygen, etc.);
- b. Change the quality of groundwater (e.g., saltwater intrusion, nitrogen-loading, site contamination, etc.);
- c. Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff;
- d. Change rates of soil absorption, or amount or direction of surface runoff;
- e. Change the drainage patterns where substantial on- or off-site sedimentation/erosion or flooding may occur;
- f. Involve activities within the 100-year flood zone;
- g. Change the quantity or movement of available surface or ground water;
- h. Adversely affect a community water service provider; or
- i. Expose people to a risk of loss, injury or death involving flooding (e.g., dam failure, etc.), or inundation by seiche, tsunami or mudflow.

4.10.4 Impact Assessment Methodology

Potential direct and indirect Project impacts related to hydrology and water quality were evaluated against the thresholds of significance listed in Section 4.10.3 and are discussed below. The impact analysis evaluates potential Project impacts during all phases of the Project.

4.10.5 Project-Specific Impacts and Mitigation Measures

Impact #	Impact Description	Residual Impact
HWQ.1	Threshold a): Would the Project demolition, soil remediation, and grading potentially violate water quality standards, discharge into surface waters, or otherwise alter surface water quality (e.g., turbidity, sediment, temperature, dissolved oxygen, etc.)?	Class II

The Project would include demolishing existing aboveground and some belowground facilities where remediation is required and would also leave any essential infrastructure or utilities required to be kept in place by regulatory authorities, and features identified to remain for potential use by subsequent site occupants, including the existing wastewater treatment system ocean outfall

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pipeline. Excavations for removal of foundations, pipelines, utilities, and other facilities would result in soil disturbance and temporary soil stockpiling, pending off-site disposal or reuse on site. Similarly, soil remediation would involve soil excavations and temporary soil stockpiling, pending sampling and analysis to determine appropriate off-site disposal options. Where excavation occurs on existing vegetated areas, minor scarification, regrading, and revegetation would be required to return existing open areas to their natural topography and to provide proper drainage, which would also result in soil disturbance.

No physical work is planned on the wastewater treatment system ocean outfall pipeline extending outside the SMR fence line as part of the Project. Phillips 66 is not proposing to remove the outfall line at this time; therefore, no ground disturbance would occur along the outfall alignment to the shore, other than continuing routine inspection and maintenance. Disposition of the outfall would ultimately be determined by the California State Lands Commission.

Asphalt surfaces would be retained, as practical, during aboveground demolition in each area, thus reducing areas of soil disturbance. Most hardscapes would also remain (or be reinstalled) after the completion of belowground demolition and remediation. Equipment, demolition debris, and waste materials would be staged within the various SMR work areas and existing primary staging area (Figure 2-6). In addition to the primary designated laydown areas, smaller areas would be used throughout the site for temporary storage and staging of materials and equipment. Demolition staging and support areas may be moved as the work progresses. Any staging areas established in unpaved areas would result in soil disturbance. Vegetation disturbance within the fence line is anticipated to be limited to isolated locations on the periphery of the site, such as the fence line perimeter areas where surface emulsion would be removed, and most of the coke areas, resulting in exposure of sediments to wind and water erosion.

As discussed for impact GEO.3 (see Section 4.7, Geology and Soils), in the absence of proper soil management, each of these soil disturbing activities could result in wind and water erosion, and associated off-site sedimentation of downstream water bodies, including Oso Flaco Creek, located approximately 0.6 mile southwest of the Project site, and Little Oso Flaco Lake (Figure 4.10-1). Oso Flaco Creek and its tributary Little Oso Flaco Creek are mostly channelized and generally flow year-round, supported by irrigation tailwater runoff. However, because ground disturbance would be greater than 1.0-acre, Project soil disturbing activities would be completed in accordance with the Construction General Permit (CGP), which includes a standard SWPPP and associated BMPs, to be implemented for sediment and erosion control during site demolition, soil remediation, excavation backfilling/recontouring, and re-hardening. Applicable BMPs may include surface roughening, mulching, and installation of silt fences and straw bale barriers to reduce erosion and sedimentation rates during vegetation establishment. Sediment control structures would be inspected and maintained until vegetation becomes adequately established.

In addition, Project demolition, soil remediation, excavation backfilling/recontouring, and re-hardening could result in incidental spills of petroleum products or other contaminants that could adversely affect water quality from demolition equipment, excavation and grading equipment, cleaning solvents, and demolition debris. Any of these contaminants would potentially impair local surface water runoff. Soil remediation would involve temporary stockpiling of excavated soil pending contaminant characterization and off-site disposal. In the absence of proper soil and debris stockpile management, precipitation could result in leaching of petroleum hydrocarbons, per-and

polyfluoralkyl substances (PFAS), and other chemicals from the soil and debris, which in turn could potentially impair local surface water runoff.

Impacted soils and any other impacted materials would be segregated from non-impacted materials. Clean soils would be segregated from waste materials and side-cast at the excavation site for backfilling, or the soil may be stockpiled for use as fill in another functional area. Debris would be managed as it is generated to minimize storm water runoff. Incidental spills within the demolition/remediation area would generally be confined to the Project site, as the existing drainage primarily flows toward a stormwater basin/evaporation pond located in Area 5. Stormwater from southern portions of the site, such as Area 6 (Coke area) that does not flow into the Area 5 stormwater basin/evaporation pond, would have limited hydrologic connections with Little Oso Flaco Creek. The undulating dune topography has created localized, internally draining basins. In addition, on-site soils are excessively drained, with a high capacity to vertically transmit water. Due to the high infiltration rates, most of the precipitation on the dune deposits percolates into the soil with minimal runoff, flooding, or ponding, which limit the potential for runoff to flow from the Project site to Little Oso Flaco Creek. However, in the absence of an Oil/Hazardous Material Spill Contingency/Soil Management Plan, incidental spills of petroleum products or other contaminants could adversely impact surface water and groundwater quality. Impacts would be potentially significant.

Post demolition and remediation, the Project site would be a combination of existing paved road, other hardscape, and areas revegetated after ground disturbance. Restoration would involve plantings and revegetation to achieve long-term dust control and minimize potential erosion and sedimentation. The Project is expected to result in an increase in vegetated area (to 49 percent of the site from 31 percent of the site due to the removal of coke and revegetation of the coke area in Area 6). Portions of the existing SMR where hardscape would be removed in order to access subsurface infrastructure or impacted soil would have hardscapes replaced. Impervious surfaces and revegetation would prevent long-term erosion of sediments and associated sedimentation of Little Oso Flaco Creek and Oso Flaco Lake.

Following demolition and remediation activities, construction SWPPP BMPs would be maintained, as appropriate, through site stabilization and restoration. The Construction SWPPP would include an Operation, Monitoring, and Maintenance (OM&M) Plan to monitor and maintain BMP effectiveness. The OM&M Plan would consist of monitoring by a Qualified Storm Water Practitioner (QSP), or trained delegate, until the Notice of Termination for coverage under the Construction General Permit is accepted (i.e., when the Construction General Permit parameters for site stabilization are achieved).

The OM&M Plan would describe the expected types and frequency of maintenance activities that would be implemented to ensure that stormwater features effectively convey stormwater runoff throughout the site. Maintenance activities may include, but are not limited to, removal of sediment from conveyance swales, repair of riprap, maintenance of fiber rolls, and maintenance of the perimeter security fence. Maintenance of the erosion control features established in the OM&M Plan should not be required after the site vegetation is fully established. Permanent stormwater management features (i.e., swales, culverts, stormwater basins) would be similar to existing features. In addition, final site contours would be similar to existing conditions and would be configured such that site drainage continues to be retained on site, with limited off-site runoff.

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Stormwater drainage features would convey on-site flows in a non-erosive manner, using accepted methods of hydrologic and hydraulic analysis.

This Project would result in a in the same level of impervious areas as the existing site, which would result in similar stormwater runoff and associated water quality impacts due to erosion and incidental spills of petroleum products or other contaminants.

Mitigation Measures

See impact HAZ.2 and mitigation measure HAZ.2-1 (Section 4.9, Hazards and Hazardous Materials).

Residual Impacts

Impact HAZ.2 (Section 4.9, Hazards and Hazardous Materials) mitigation measure HAZ.2-1 would require development of an Oil/Hazardous Material Spill Contingency Plan and would ensure that adequate spill response equipment is at the SMR and that spills are cleaned up quickly, which would reduce impacts to water quality. Implementing mitigation measure HAZ.2-1, along with the SWPPP and proposed stockpile management measures within the SMR site, would reduce spill-related impacts to surface and groundwater quality to **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
HWQ.2	Threshold b): Would the Project change the quality of groundwater (e.g., saltwater intrusion, nitrogen-loading, etc.)?	Class III

A 2022 NMMA report concluded that there is no evidence of seawater intrusion in the NMMA portion of the Santa Maria Groundwater Basin. Groundwater remediation would not be completed as part of the Project. Therefore, no groundwater extraction wells, which could potentially increase the possibility for seawater intrusion by drawing saline waters toward the site, would be installed and/or operated as part of the Project. As a result, the potential for saltwater intrusion would not increase as a result of the Project.

Groundwater quality monitoring has identified localized areas of the NMMA with nitrate concentrations greater than drinking water standards. In addition, one of the Phillips 66 wells reported a high (1,000 mg/l) TDS concentration, which exceeds secondary drinking water standards. However, the well is only used for industrial processing. Chloride and TDS concentrations in groundwater samples from shallow dune sand wells have exhibited elevated nitrate concentrations or increasing salinity. The Project would not contribute to an increase in TDS and nitrate concentrations in groundwater beneath the site.

As previously discussed in Chapter 2.0, Project Description, and discussed in more detail in Section 4.9, Hazards and Hazardous Materials, soil and groundwater have historically been contaminated as a result of releases in several areas of the SMR. Phillips 66 is currently coordinating its investigation and remediation programs with the Central Coast Water Board. Groundwater remediation associated with the Slop Oil Line Release is being completed independent of the Project. Manual extraction of LNAPL is currently being conducted as an interim remediation measure under Central Coast Water Board oversight. In addition, a long-term

Hydrocarbon Recovery System, referred to as the SMR GWRP, is currently being installed. Central Coast Water Board staff will oversee implementation of the Slop Oil Line remediation activities and the post-remediation groundwater monitoring activities and will determine when the cleanup is complete. The Project would not contribute to increased petroleum hydrocarbon concentrations in groundwater beneath the site. Conversely, the Project includes extensive soil remediation, as required by regulatory requirements, which would remove a portion of the source material of groundwater contamination beneath the site. With a reduction of contaminated soil beneath the site, percolation of precipitation through the highly permeable soils and leaching of the petroleum impacted soils into groundwater would not occur. As a result, impacts would be **less than significant (Class III)** impacts would occur.

Impact #	Impact Description	Residual Impact
HWQ.3	Threshold c): Would the Project create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide additional sources of polluted runoff?	Class III

Following demolition and soil remediation in a given area, the work site would be backfilled to the pre-excavation contour. The disturbed site would be backfilled with clean soil from a borrow site within the Coke Storage Area (Area 6 of Figure 2-3) and other available material, such as aggregate from crushed concrete or asphalt. Areas of existing hardscape would be re-hardened with aggregate, concrete slurry, emulsion, or comparable methods, to stabilize the site and preserve the pre-existing hardscape surface area and contour. As a result, the amount of impervious surfaces would remain unchanged with respect to existing conditions, resulting in no increase in stormwater runoff. As discussed for impact HWQ.1, the preliminary grading plan final site contour is configured to retain post-construction site drainage on site and to convey on-site flows in a non-erosive manner that prevents potential off-site stormwater (and related water quality) impacts. Final site contouring would be configured such that site drainage continues to be retained on site with the evaporation pond in Area 5 remaining, with limited off-site runoff. The preliminary grading plan finish grade contour would provide basins to retain stormwater within the work sub-areas and within the overall Project site consistent with current drainage patterns. Drainage infrastructure would be designed such that stormwater runoff occurs in a non-erosive manner that prevents potential off-site stormwater (and related water quality) impacts. Therefore, impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
HWQ.4	Threshold d): Would the Project change rates of soil absorption or the amount or direction of surface runoff?	Class III

As discussed for impact HWQ.3, final site contouring would be configured such that stormwater runoff patterns would be similar to existing conditions such that site drainage continues to be retained on site, with limited off-site runoff. In addition, as previously discussed, post-remediation impervious surfaces would be similar to existing conditions, resulting in no change in rates of soil absorption. Impacts would be **less than significant (Class III)**.

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Impact #	Impact Description	Residual Impact
HWQ.5	Threshold e): Would the Project change the drainage patterns where substantial on- or off-site sedimentation/erosion or flooding may occur?	Class III

As discussed for impacts HWQ.3 and HWQ.4, following demolition and soil remediation, the final site configuration would be similar to existing conditions, and existing drainage patterns, impervious surfaces, soil absorption, and surface runoff patterns would generally be retained. The preliminary grading plan final site contour is configured to retain post-construction site drainage on site and to convey on-site flows in a non-erosive manner that prevents potential off-site stormwater (and related water quality) impacts. Impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
HWQ.6	Threshold f): Would the Project involve activities within the 100-year flood zone?	Class III

The Project site is located outside the 100-year Flood Hazard Zone (Figure 4.10-2). Therefore, the Project would not involve activities within the 100-year flood zone. Impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Phase	Residual Impact
HWQ.7	Threshold g and h) Would the Project change the quantity or movement of available surface or ground water? Would the Project adversely affect a community water service provider?	Construction	Class IV

As noted in the six most recent Annual Reports for the adjudicated NMMA of the Santa Maria Groundwater Basin, the calendar year groundwater production for the SMR has been consistent at 1,100 AFY. As noted in Section 4.2.3 of the 2022 report:

The P66 refinery expects future production to be similar to recent years' production amounts of approximately 1,100 AFY.

This volume is equivalent to approximately 358 million gallons per year (at 325,800 gallons per acre-foot) or an average of 982,000 gallons per day.

The proposed belowground demolition and remediation work would require two on-site water trucks of 2,000-gallon capacity. A conservative estimate for water during this period is 40,000 gallons per day, primarily for dust control (see Section 4.3, Air Quality). This volume is adequate to cover one acre per day of actively working area. Dust control required for remediation-related grading would likely use similar quantities of water. This anticipated water demand would be less than four percent of the recent years' water demand of 982,000 gallons per day. Because on-site water would be supplied by groundwater from the NMMA, a Project-related decrease in groundwater extraction would result in **beneficial (Class IV)** impacts.

Impact #	Impact Description	Residual Impact
HWQ.8	Threshold i): Would the Project expose people to a risk of loss, injury or death involving flooding (e.g., dam failure, etc.), or inundation by seiche, tsunami or mudflow?	Class III

As described for impact HWQ.6, the Project site is located outside the 100-year Flood Hazard Zone. Similarly, the Project site is not located within a dam inundation area. The site is not located adjacent to an enclosed body of water and would therefore not be susceptible to inundation by seiche. As discussed in Section 4.7, Geology and Soils, the Project site would also not be susceptible to inundation by tsunami. Impacts would be **less than significant (Class III)**.

4.10.6 Mitigation Measure Impacts to Other Issue Areas

As no additional mitigation measures are proposed for hydrology and water quality, there would not be any impacts to other issue areas from mitigation measures.

4.10.7 Cumulative Impacts

The Project would not include any new construction. Therefore, cumulative projects involving construction, including California Department of Transportation (Caltrans) roadway projects (see Table 3.1), and various northern Santa Barbara County projects (see Table 3.1), would have no cumulative impact regarding hydrology and water quality.

Soil remediation for cumulative projects at the SMR (NIWS site) has already been completed; therefore, potential erosion-related impacts at these SMR remediation projects would not overlap temporally with potential erosion and water quality impacts associated with the Project. Similarly, potential future removal of off-site facilities would potentially cause erosion- and water quality-related impacts in the future but would not coincide in location, with potential erosion- and water quality-related impacts associated with the Project.

4.10.8 References

Carollo Engineers. 2012. San Luis Obispo County Master Water Plan Report. Prepared for San Luis Obispo County Flood Control and Water Conservation District. May 2012. Available at: <https://www.slocounty.ca.gov/Departments/Public-Works/Forms-Documents/Water-Resources/Master-Water-Report/2012-MWR-Volume-I.pdf>. Accessed June 8, 2023.

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4.11 Land Use and Planning

This section describes existing and proposed land uses within the Project site and the site vicinity, their consistency with applicable land use policies, and potential impacts that may result from conflicts with applicable land use policies. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition of Refinery facility structures and soil remediation on the site followed by soil stabilization, surface re-hardening or revegetation of disturbed areas, with some minor long-term operations associated with ongoing remediation under existing permits.

4.11.1 Environmental Setting

The Phillips Santa Maria Refinery (SMR) has been a petroleum oil refinery since its construction in 1955. The SMR was previously linked to the San Francisco-area Rodeo Refinery by a 200-mile pipeline through which semi-refined liquid products were transferred north for upgrading into finished petroleum products. The SMR also produced solid petroleum coke that left the Refinery by rail or haul truck, and recovered solidified sulfur transported by haul truck.

4.11.1.1 Regional Setting

The Project site is located within an unincorporated area adjacent to the Callender-Garrett Village Reserve Line (VRL), which delineates an unincorporated community district immediately north of the site. The Project site is approximately 2.5 miles west of the community of Nipomo and 2.0 miles east of the Pacific Ocean coastline in the southern portion of San Luis Obispo County (County), and approximately 3.4 miles north of the San Luis Obispo County/Santa Barbara County border. The Project site is located within the Coastal Zone in the South County Coastal Planning Area of the County.

The South County Planning Area encompasses an area of approximately 98,910 acres (154 square miles) that extends from the urban boundaries of the “Five Cities” area (Cities of Arroyo Grande, Grover Beach, and Pismo Beach, and the unincorporated communities of Oceano and Shell Beach) on the north side, to the coastal range to the east, the Santa Maria River to the south, and the Pismo Dunes to the west (County 2018b). Diverse land uses occur within this planning area, including the urban and suburban development within the communities of Nipomo and surrounding unincorporated village areas, the rural and agricultural use of the foothill and Nipomo Mesa areas, and scenic and natural characteristics of the coastal ridges and Pismo Dunes.

Agriculture has historically been, and still is, the most widespread land use in the South County Planning Area. Agricultural practices of varying degrees of intensity involve over two-thirds of

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the Planning Area. Land within the Rural Lands, Recreation, Open Space designations constitute the second, third, and fourth most common land use designations in the area, followed by Residential Rural, Residential Single-Family, and Residential Multi-Family land use designations. Industrial land uses constitute roughly two percent of the total land area of the South County Planning Area, with the largest industrial use in the area consisting of the SMR property and areas directly north of this site within the Callender-Garrett VRL (County 2018b).

The Project site is located east of the Oceano Dunes State Vehicular Recreation Area (ODSVRA), and northeast of the Oso Flaco Day Use Area and Oso Flaco Lake Trail. The Nipomo Bluff Trail terminates approximately 0.6 mile east of the SMR, and the Juan Batista de Anza National Historic Trail follows State Route 1 through the area. Numerous public and/or private recreational facilities are located within or near the adjacent Woodlands Village Reserve (Monarch Dunes) development, including pedestrian and equestrian trails, golf courses, monarch butterfly habitat, public sidewalks, pocket parks and green spaces. The nearest vertical coastal access points are located approximately 3.6 miles to the north (pedestrian and vehicle) and 0.74 mile south (pedestrian only).

4.11.1.2 Project Site Setting

The Project is on a portion of the Phillips 66 SMR property located at 2555 Willow Road, Arroyo Grande, California. Existing Refinery operations currently occupy approximately 218 acres within the following two adjoining parcels: Assessor's Parcel Number (APN) 092-401-011 and APN 092-401-005. These parcels containing the Project site are within the County Industrial (IND) land use designation. The Union Pacific Railroad (UPRR) bisects the property along the western edge of the SMR site and serves the facility via two rail spurs. Phillips 66 owns several contiguous parcels, and the combined properties comprise approximately 1,642 acres. The contiguous properties under Phillips 66 ownership are undeveloped and vacant; the parcels west of the UPRR right-of-way (ROW) are in Open Space (OS) while the properties east of the UPRR the land use is Industrial (IND). The Project site and surrounding Phillips-owned property is within the Coastal Zone and is subject to the County's Local Coastal Program, including the Coastal Policies, the South County Coastal Area Plan, and Coastal Zone Land Use Ordinance (CZLUO) (Title 23).

The Project site is currently developed with existing SMR facilities, including administration and workshop buildings, petroleum storage tanks, processing equipment and tall vertical elements including stacks and a flare, as described in detail in Chapter 2.0, Project Description. The Project area is located in the Industrial (IND) land use designation. Surrounding land use designations outside the Phillips-owned property include Residential Suburban (RS) and Industrial (IND) to the north, Industrial (IND) to the east, Open Space (OS) to the west, Agriculture (AG) to the southwest, and Agriculture (AG) to the south and southeast. Land uses surrounding the property include golf course and residential development to the northeast, the ODSVRA to the west, and agricultural cropland to the south. Several commercial and light industrial uses such as auto-dismantlers and storage yards are found immediately north of the property. Surrounding land uses are shown in Figure 4.11-1 and summarized in Table 4.11.1, below.

Table 4.11.1 Summary of Project Site Land Use and Surrounding Land Uses

Location	County Land Use Designation(s)	Existing Land Uses
Project site	Industrial	Santa Maria Refinery facilities, pipelines, roads
North of Project site	Industrial, Residential Suburban	Willow Road (SR 1), automobile repair shops, recreational vehicle (RV) storage lots, CAL FIRE Station 22, single-family residences
East of Project site	Industrial, Agriculture	Undeveloped land under P66 ownership, agricultural cultivation
South of Project site	Agriculture	Agricultural cultivation, undeveloped land under P66 ownership
West of Project site	Open Space	Undeveloped land under P66 ownership

Note: P66 = Phillips 66 Company

Source: County 2023

A summary of allowable land uses associated with local County land use designations is provided in Table 4.11.2, below.

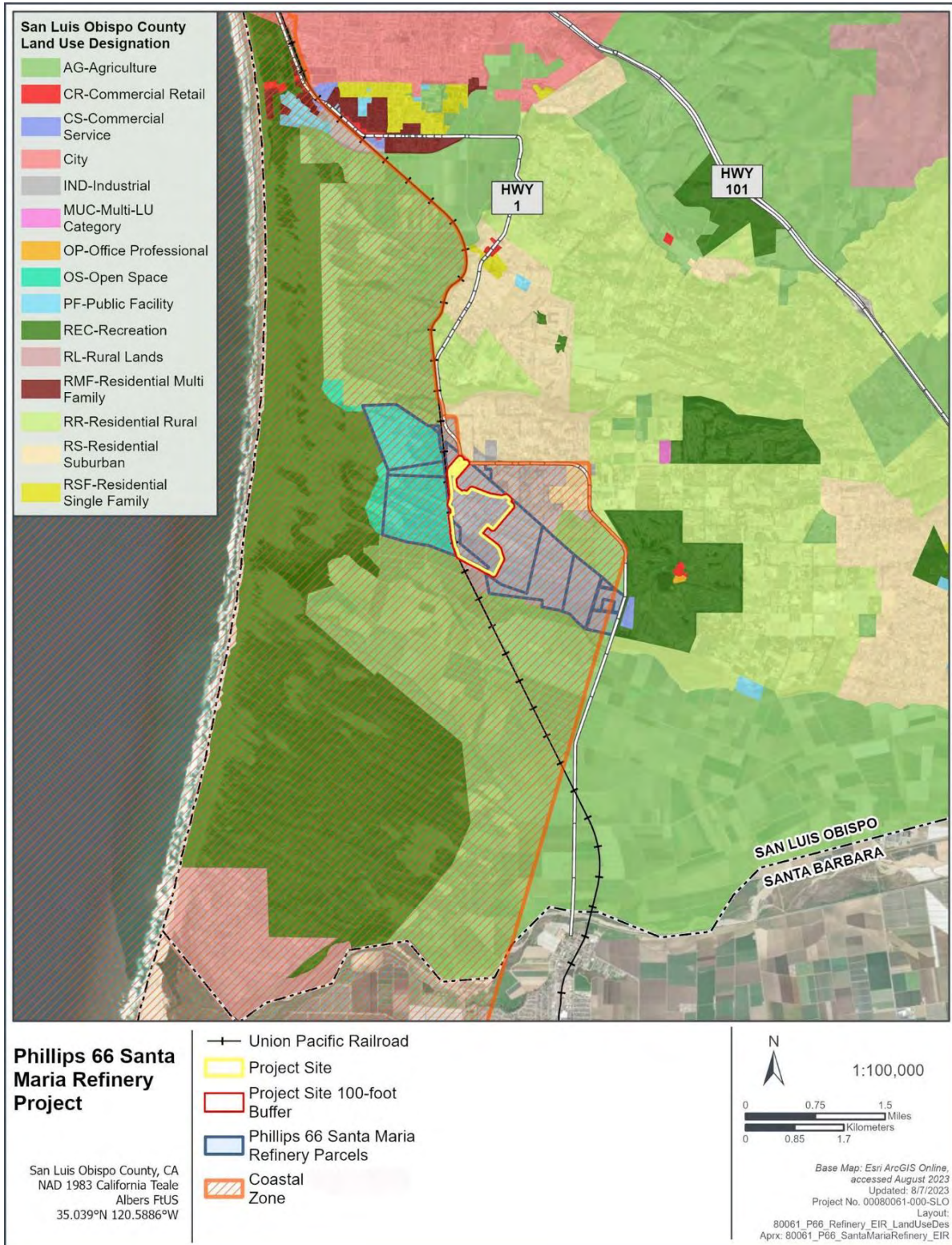
Table 4.11.1 County Land Use Designations within the Project Vicinity and Allowable Uses

Land Use Designation	Examples of Potential Allowable Uses
Agriculture (AG)	Crop production and grazing, agricultural processing facilities, single-family dwellings, accessory dwellings, mobile homes, agricultural accessory structures, agricultural worker housing, forestry, animal keeping, cannabis activities, nursery specialties, industrial hemp cultivation, kennels, energy-generating facilities
Commercial Service (CS)	General retail, grocery stores, restaurants, food and beverage products, furniture and fixture products, cabinet shops, metal industries (fabricated), fuel dealers, small-scale manufacturing, warehousing, vehicle/mobile home dealers, agricultural processing facilities, agricultural accessory structures, veterinary medical facilities, kennels, animal keeping, cannabis activities, nursery specialties, crop production and grazing, energy-generating facilities
Industrial (IND)	Agricultural processing facilities, crop production and grazing, broadcasting studios, coastal accessways, passive recreation, apparel products manufacturing, machinery manufacturing, paper products manufacturing, laundry and dry-cleaning facilities, public safety facilities
Open Space (OS)	Crop production and grazing, Coastal accessways, passive recreation
Residential Suburban (RS)	Single-family dwellings, accessory dwellings, mobile homes, agricultural accessory structures, kennels, animal keeping, cannabis activities, nursery specialties, crop production and grazing, forestry, energy-generating facilities

Source: County 2018a

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Figure 4.11-1 Surrounding Land Use Designations



Source: County 2023

4.11.2 Regulatory Setting

4.11.2.1 Federal Regulations

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) was passed in 1972 and outlines the management of the nation's coastal resources including the Great Lakes. Its goal is to "preserve, protect, develop, and where possible, to restore or enhance the resources of the nation's coastal zone." The CZMA is administered by the National Oceanic and Atmospheric Administration (NOAA) and outlines three national programs: the National Coastal Zone Management Program, the National Estuarine Research Reserve System, and the Coastal and Estuarine Conservation Program.

4.11.2.2 State Regulations

California Coastal Act of 1976

The California Coastal Act of 1976 mandates that local governments prepare a land use plan and schedule of implementing actions to carry out the policies of the California Coastal Act. The California Coastal Act guides how land along the coast of California is developed, or protected from development and identifies maintaining public access to the coast as a top priority, as well as preservation of sensitive coastal and marine habitat and biodiversity. The California Coastal Act defines the area of the coast that falls under the jurisdiction of the California Coastal Commission, which is called the Coastal Zone. The Coastal Zone extends seaward to the state's outer limit of jurisdiction (three miles) and generally extends inland 1,000 yards from the mean high tide line of the sea, but it is wider in areas with significant estuarine, habitat, and recreational values, and narrower in developed urban areas.

For a detailed discussion of the Project's coastal access requirements, see Section 4.14, Recreation and Coastal Access.

California State Lands Commission

Established in 1938, the California State Lands Commission (CSLC) manages four million acres of ungranted tidelands, submerged lands, and the beds of natural navigable lakes and waterways. These lands, often referred to as sovereign or Public Trust lands, stretch from the Klamath River and Goose Lake in the north to the Tijuana Estuary in the south, and the Colorado River in the east, and from the Pacific coast three miles offshore in the west to Lake Tahoe in the east and includes California's two longest rivers, the Sacramento River and the San Joaquin River. The State Lands Commission also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6009, subd. (c); 6009.1; 6301; 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the common law Public Trust Doctrine. The CSLC also has a lease and oversight of the existing wastewater outfall pipeline utilized by the SMR, which originates at the SMR wastewater processing plant and runs west for two miles beyond the SMR property through the Oceano dunes, terminating at a seafloor diffuser located 0.5 mile offshore.

4.11.2.3 Local Regulations

County of San Luis Obispo General Plan

Land Use Element, Framework for Planning - Coastal Zone

The County has adopted a Land Use Element (LUE) and Land Use Ordinance (LUO) system that sets forth the general plan zoning designations and districts. The County Framework for Planning serves as the LUE for the County in inland areas; a separate Coastal Zone Framework for Planning (County 2018a) applies within the Coastal Zone. The LUE is a plan describing the official County policy on the location of land uses and their orderly growth and development. The LUE coordinates policies and programs in other County General Plan elements that affect land use and provides policies and standards for management of growth and development in each unincorporated community and the rural areas of the County. In addition, the LUE serves as a reference point and guide for future land use planning studies throughout the County.

The LUE also incorporates the Land Use Plan portion of the County's Local Coastal Program (LCP), which has been certified by the California Coastal Commission. The Land Use Plan is the Land Use Element for the Coastal Zone, which is the area subject to the California Coastal Act of 1976. The Land Use Plan, together with the CZLUO and related maps, comprise the County's LCP.

South County Area Plan (Coastal)

The County Area Plans are included as Part II of the Framework for Planning/Land Use Element and provide more guidance detail for each sub-area of the County (County 2018b). The South County Area Plan (Coastal), which applies to the Phillips 66 property, refines the general land use policies of the Framework for Planning (Coastal) and serves as a guide for future development within the South County Coastal Planning Area. The South County Area Plan identifies where land use categories are applied within the planning area and establishes policies and programs for land use, circulation, public facilities, services, and resources that apply areawide, in rural areas, and/or unincorporated urban areas adjacent to cities.

Noise Element

The County General Plan Noise Element provides a policy framework for addressing potential noise impacts in the planning process (County 1992). The purpose of the Noise Element is to minimize future noise conflicts. The Noise Element identifies the major noise sources in the County (highways and freeways, primary arterial roadways and major local streets, railroad operations, aircraft and airport operations, local industrial facilities, and other stationary sources) and includes goals, policies, and implementation programs to reduce future noise impacts. Among the most significant policies of the Noise Element are numerical noise standards that limit noise exposure within noise-sensitive land uses, and performance standards for new commercial and industrial uses that might adversely impact noise-sensitive land uses.

Safety Element

The two primary principles of the County's Safety Element are emergency preparedness and managed development to reduce risk (County 1999). The Safety Element identifies potential emergency situations and natural disasters within the County and includes goals and policies for response during an emergency or natural disaster and the avoidance of unnecessary risk. The

Safety Element includes mapping of hazardous areas, including areas prone to liquefaction, landslides, fault hazards, flood hazards, and dam inundation.

Parks and Recreation Element

The County's Parks and Recreation Element establishes goals, policies, and implementation measures for the management, renovation, and expansion of existing, and the development of new parks and recreation facilities in order to meet existing and projected needs and to assure an equitable distribution of parks throughout the County (County 2006).

Agriculture Element

The County's Agriculture Element protects agricultural resources within the County by creating policies for promotion of the agricultural industry and preservation of open space within agricultural lands (County 2010a). The goals, policies, and implementation measures of this Agriculture Element address the protection of agricultural resources as well as the protection of open space resources on lands zoned for Agriculture (AG) and on other lands used for production agriculture.

Conservation and Open Space Element

The Conservation and Open Space Element (COSE) consists of a policy and program document and a technical appendix. The COSE policy and program document includes separate chapters to address air quality, biological resources, cultural resources, energy, mineral resources, open space, visual resources, and water resources (County 2010b). The technical appendix includes the County's first baseline greenhouse gas (GHG) emissions inventory. The COSE is based on the principles of strategic growth, with the intent to preserve unique or valuable natural resources, to manage development within the sustainable capacity of the County's resources, and to reduce the County's contribution to global climate change.

Housing Element

The County's Housing Element establishes the framework to facilitate housing development and address current and projected housing needs, provides an assessment of housing needs for the unincorporated county, and provides a summary of the County's progress in implementing the programs from the previous housing element (County 2020). The County's Housing Element identifies goals, objectives, policies, and programs to guide the County decision making and focused efforts during the planning period.

2023 Regional Transportation Plan/Sustainable Communities Strategy

San Luis Obispo Council of Governments (SLOCOG) is an association of local governments comprised of seven incorporated cities (Arroyo Grande, Atascadero, Grover Beach, Morro Bay, Paso Robles, Pismo Beach, and San Luis Obispo) and the County. SLOCOG's responsibilities include long-range regional transportation planning and funding for the region, preparation of the Regional Housing Needs Allocation (RHNA) report, and preparation of the Sustainable Communities Strategy (SCS) as part of the Regional Transportation Policy (RTP).

The 2023 RTP was adopted by the SLOCOG Board in June 2023. The RTP provides a collective vision for the region's future balancing transportation and housing needs with social, economic, and environmental goals. The RTP also includes the region's SCS, which outlines how the region will meet or exceed its GHG reduction targets as required by Senate Bill (SB) 375 through the

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promotion of a variety of transportation demand management & system management tools and techniques to maximize the efficiency of the transportation network. Consistency with the requirement of SB 375 ensures consistency with the GHG-reduction targets set by CARB. The 2023 SCS was found to be consistent with the requirement of SB 375 and is also consistent with the general plans of the region's jurisdictions (SLOCOG 2023).

County of San Luis Obispo Coastal Zone Land Use Ordinance

The CZLUO constitutes Title 23 of the San Luis Obispo County Code. The CZLUO was established to guide and manage the future growth in the coastal zone of the County in accordance with the General Plan, to regulate land use in a manner that will encourage and support orderly development and beneficial use of lands, to minimize adverse effects on the public resulting from inappropriate creation, location, use, or design of buildings or land uses, and to protect and enhance significant natural, historic, archaeological, and scenic resources within the coastal zone of the County. The CZLUO is the primary tool used by the County to carry out the goals, objectives, and policies of the General Plan for land use and planning decisions within the coastal zone.

County of San Luis Obispo Coastal Plan Policies

The County Local Coastal Plan Policy Document is part of the County's LCP and LUE (County 2007). Many of the policies include programs and standards, some of which have been implemented in the CZLUO and planning area standards. The LUE is the coordinating mechanism for incorporating the policies of this document that have land use implications. In addition to amended portions of the LUE and the CZLUO, this document states the policy commitment of the County to implement the mandates of the Coastal Act. The document includes policies related to shoreline access, recreation and visitor-serving facilities, coastal watershed, visual and scenic resources, hazards, and air quality, among others.

San Luis Obispo County Multi-Jurisdictional Hazard Mitigation Plan

The County Multi-Jurisdictional Hazard Mitigation Plan (MJHMP) has a goal of providing practical, meaningful, attainable, and cost-effective mitigation solutions to reduce vulnerability to the identified hazards and ultimately reduce both human and financial losses from hazard events (County 2019).

4.11.3 Thresholds of Significance

The determinations of significance of Project impacts are based on applicable policies, regulations, goals, and guidelines defined by the California Environmental Quality Act (CEQA) and the County. Specifically, the Project would be considered to have a significant effect on land use and planning if the effects exceed the significance criteria described below:

Would the Project:

- a. Physically divide an established community; or
- b. Cause a significant environmental impact due to a conflict with any land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?

Each of these thresholds is discussed under Section 4.11.5, Project-Specific Impacts and Mitigation Measures, below.

4.11.4 Impact Assessment Methodology

Sources utilized in the assessment of land use and planning impacts include the County General Plan, CZLUO, SLOCOG 2023 Regional Transportation Plan/Sustainable Communities Strategy, and the County MJHMP.

The Project’s potential consistency with relevant plans and policies is evaluated in Table 4.11.3, Consistency with Plans and Policies. Only Project elements that have the potential to conflict with an applicable goal, policy, or program are evaluated further in this section. Based on CEQA, inconsistency with an adopted policy does not constitute an impact unless it may cause either a direct or indirect physical change in the environment, or a reasonably foreseeable physical change in the environment (Public Resources Code Section 21065). Therefore, the analysis provided in this section focuses on the goals, plans, policies, and programs that the Project may be inconsistent with and the physical impacts on the environment that may result from those inconsistencies.

Some potential environmental impacts discussed in other sections of this Environmental Impact Report (EIR) are based upon consistency with local County plans and/or policies. For example, Section 4.12, Noise, includes an assessment of the Project’s consistency with the noise standards identified in the Noise Element of the County’s General Plan and CZLUO. Similarly, Section 4.3, Air Quality, and Section 4.8, Greenhouse Gas Emissions, include an evaluation of impacts associated with these resource areas as it relates to applicable San Luis Obispo County Air Pollution Control District (SLOCAPCD) air quality standards. Therefore, there may be instances where an inconsistency with these plans and policies is identified that could result in adverse physical effects on the environment, but those effects have already been discussed as a potentially significant impact in other sections of this EIR (i.e., an exceedance of the noise thresholds identified in the Noise Element would be considered a potentially significant impact in the Noise section of the EIR). In those instances, this section will refer to the discussion in the individual resource section, rather than discuss the potential for an additional significant impact under a land use threshold, based on the same adverse environmental effect.

4.11.5 Project-Specific Impacts and Mitigation Measures

Impact #	Impact Description	Residual Impact
LUP.1	Threshold a): Would the Project physically divide an established community?	Class III

The Project would not result in the removal or blockage of any existing public roadways or other travel patterns and would not otherwise include any features that would physically divide an established community. The Project site is located between existing unincorporated communities and the ODSVRA and the Project would not remove or alter the existing offer of dedication for vertical access from State Route 1 to the western property line of the Phillips 66 property.

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Therefore, the Project would not physically divide an established community, and potential impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
LUP.2	Threshold b): SHORT-TERM PARTICULATE: Would the Project cause a significant environmental impact due to a conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Class I

CEQA Guidelines §15125(d) requires an EIR to discuss any inconsistencies between the Project and applicable general plans, specific plans, and regional plans. While CEQA requires a discussion of consistency with public plans, inconsistency does not necessarily lead to a significant impact. Inconsistency with public plans creates significant impacts under CEQA only when an adverse physical effect on the environment would result from the inconsistency. The key plans and policies applicable to the project are described in Section 4.11.2, above. It is the responsibility of the County, the lead CEQA decision maker, to make the final determination regarding consistency issues as it relates to applicable County of San Luis Obispo policies. Table 4.11.3 provides an evaluation of the Project's consistency with relevant goals, policies, regulations, and implementation measures set out in these County of San Luis Obispo plans.

As indicated in the table, the Project construction activities (short-term) would be consistent with all policies with the possible exception of the General Plan Conservation Element Policy AQ 3.3, which requires avoiding air pollution increases:

Avoid a net increase in criteria air pollutant emissions in planning areas certified as Level of Severity II or III for Air Quality by the County's Resource Management System (RMS).

As discussed in Section 4.3, Air Quality, the Nipomo Mesa has long suffered exceptionally poor air quality primarily due to particulate matter and fugitive dust. The construction phase of the Project would increase fugitive dust and particulate emissions above the historical levels. The inconsistency listed above would potentially exacerbate an already poor air quality situation on the Mesa on a short-term basis and could lead to additional temporary exceedances of standards and result in degradation of health effects associated with increased fugitive dust and particulates. While the emissions of fugitive dust and particulates on the Mesa are below the SLOCAPCD thresholds (see Section 4.3, Air Quality), the exceptionally poor air quality of the area and the associated relatively small increase in fugitive dust and particulate emissions associated with the construction phase of the Project could result in short-term significant impacts.

As the Project would increase the short-term emissions of fugitive dust and particulates on the Nipomo Mesa designated as a Level of Severity III, this would be inconsistent with General Plan Conservation Element Policy AQ 3.3 and produce significant and unavoidable impacts.

Mitigation Measures

See mitigation measure AQ.1-1 and AQ.3-1.

Residual Impacts

Although mitigation measure AQ.1-1 and AQ.3-1 would substantially reduce fugitive dust and particulate emissions associated with the Project and would require fugitive dust monitoring of the air quality in coordination with the SLOCAPCD, emissions of fugitive dust and particulates would still be generated in an area designated as Level of Severity III (Nipomo Mesa). The effectiveness of the fugitive dust monitoring would most likely result in protection of the area from additional exceedances of the standards and degradation of health effects. However, the monitoring activities have not been implemented and their effectiveness is not known. Therefore, due to the highly sensitive nature of the Nipomo Dunes to particulate impacts (see Section 4.3, Air Quality), this would constitute a short-term **significant and unavoidable impact (Class I)**.

Impact #	Impact Description	Residual Impact
LUP.3	Threshold b): LONG-TERM DUST: Would the Project cause a significant environmental impact due to a conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Class IV

As discussed above, increases in short-term particulate emission on the Mesa could be a significant impact. However, once Project demolition and remediation and site disturbance is reduced as the construction activities are completed, the particulate emissions long-term would be reduced to below those associated with the historical SMR operations. This long-term reduction in particulate emissions on the mesa would be a **beneficial impact (Class IV)**.

Impact #	Impact Description	Residual Impact
LUP.4	Threshold b): OTHER: Would the Project cause a significant environmental impact due to a conflict with a land use plan, policy, or regulation adopted for the purpose of avoiding or mitigating an environmental effect?	Class III

Section 4.14, Recreation and Coastal Access, discusses coastal access, including the County's requirements for establishing new coastal access, described in detail in Section 4.14.2, Regulatory Setting. The SMR site and property lies west of the first public road (State Highway 1) but does not extend to the shoreline and does not obstruct public access to the shoreline. The Phillips 66 property abuts the ODSVRA property line approximately one to 1.5-miles inland from the shore. West of the Phillips 66 property, the public currently has full access to the coastal shoreline from Pismo Dunes to the north to Oso Flaco Lake to the south. The Project does not impede, modify, or otherwise impact the existing coastal public access.

An Irrevocable Offer to Dedicate (OTD) Vertical Public Access Easement was required to be provided under a prior permit (Throughput Increase, (DRC2008-00146 approved 2/26/2013); the 21-year Offer was recorded on April 15, 2015, and is valid until 2036. The OTD, which encumbers a private service road used by Phillips 66 to inspect the wastewater outfall pipeline, is in two segments bisected by the UPRR fee-owned land. The OTD will expire unless accepted; acceptance is contingent on the Applicant or their successor-in-interest meeting all of the condition requirements to construct the coastal access by April 2036.

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A different permit application, DRC2012-00095 (Rail Spur Extension), which was submitted in 2013, was evaluated under a separate EIR which included a detailed assessment of the potential alignment for coastal access over the Phillips 66 property. The provision of public access from State Route 1 through the Phillips 66 property would likely require construction of an over- or under-pass across the UPRR ROW, as UPRR's policies strongly discourage new at-grade public crossings. The Rail Spur Extension Project proposed a significant expansion of the facility which was appealed and ultimately denied by the Board of Supervisors in March of 2017; the FEIR initially circulated in December of 2015 and was never certified.

Phillips 66 pursued compliance with required conditions of approval to implement the Throughput Increase Project, including recording the OTD public access under Condition 17, but withdrew and abandoned the project in January of 2021 in anticipation of the pending Refinery shutdown. The OTD is "irrevocable" for the 21-year term but will expire unless accepted by April 15, 2036.

San Luis Obispo County Local Coastal Program Standards, Shoreline Access Policy 2 – New Development states, in relevant part:

Maximum public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development. Exceptions may occur where (1) it is inconsistent with public safety, military security needs, or the protection of fragile coastal resources; (2) adequate access exists nearby, or; (3) agriculture would be adversely affected. Such access can be lateral and/or vertical. Lateral access is defined as those accessways that provide for public access and use along the shoreline. Vertical access is defined as those accessways which extend to the shore, or perpendicular to the shore in order to provide access from the first public road to the shoreline.

This current application to demolish and remediate the Refinery site is considered a Project under the Coastal Act, and provision of coastal access is required to be evaluated. As described in Section 4.14.1.3, the Rail Spur Extension Project EIR concluded that until California State Parks resolves long-standing issues associated with access and staging for the ODSVRA, the most appropriate type and location of future coastal access on the SMR site, and connection to the ODVSRA property, is uncertain. With no direct shoreline, the Phillips 66 property does not currently prevent or impede public access to the coast, and the Project is demolition and remediation of a facility rather than an intensification of use or a new use. The Project would result in removal of structures and ultimately in a significant reduction of activity. Impacts associated with the Project do not generate a sufficient nexus and are not proportional to the costs to construct vertical trail access, particularly in light of the bisecting railroad ROW which requires design and construction of an under- or over-pass to create such access. In addition, the point of connection to the ODSVRA to the west is dependent on the State's plans for that portion of the Park such that planning and coordination is required. Although demolition is defined as "new development" and subject to this policy, the policy consistency is not a CEQA issue as there is no direct environmental impact under CEQA.

Coastal access would be a requirement of any future development that would increase activity at the site. The current Irrevocable OTD an easement for public access serves as a placeholder for future development of the site. However, given that the Project's ongoing remediation activities

may extend for longer than anticipated or the Project may not be redeveloped for many years, the OTD could expire on April 15, 2036. Therefore, Staff will recommend a Project condition of approval requiring that the current Irrevocable OTD be extended in perpetuity to ensure that any future use of the site will provide the required vertical access and record an easement. Conditions of Approval for the Project’s Development Plan/Coastal Development Permit will be presented to the County Planning Commission for consideration along with certification of the Final EIR. The permit condition requiring the existing OTD be amended to remove the expiration and run with the land in perpetuity would address compliance with the California Coastal Act, Local Coastal Plan, and Title 23 requirements for coastal access for the Project.

Although the Project is subject to this policy by definition, the policy consistency is not a CEQA issue as there is no direct environmental impact under CEQA. Extending the OTD in perpetuity as a condition of Project approval ensures that future development would provide vertical access with any proposed intensification of use.

Policy Consistency Analysis

Table 4.11.3 provides a comprehensive list of applicable plans and policies pertaining specifically to land use and planning that were adopted for the purpose of avoiding or mitigating an environmental effect, and also includes a preliminary evaluation of the Project’s consistency with the guidelines and requirements.

Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
County of San Luis Obispo General Plan – Noise Element		
Goal 1: To protect the residents of San Luis Obispo County from the harmful and annoying effects of exposure to excessive noise.	Ensure noise levels are acceptable	With mitigation, the noise levels are determined to be acceptable. See Section 4.12, Noise. Therefore, the Project would be consistent with the goal.
Goal 2: To protect the economic base of San Luis Obispo County by preventing incompatible land uses from encroaching upon existing or planned noise-producing uses.	Ensure noise levels are acceptable	With mitigation, the noise levels are determined to be acceptable. See Section 4.12, Noise. Therefore, the Project would be consistent with the goal.
Goal 3: To preserve the tranquility of residential areas by preventing the encroachment of noise-producing uses.	Ensure noise levels are acceptable	With mitigation, the noise levels are determined to be acceptable. See Section 4.12, Noise. Therefore, the Project would be consistent with the goal.
Policy 3.3.1: The noise standards in this chapter represent maximum acceptable noise levels. New development should minimize noise exposure and noise generation.	Ensure noise levels are acceptable	With mitigation, the noise levels are determined to be acceptable. See Section 4.12, Noise. Therefore, the Project would be consistent with the goal.

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Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
<p>Policy 3.3.2: New development of noise-sensitive land uses (see Section 1.5 – Definitions) shall not be permitted in areas exposed to existing or projected future levels of noise from transportation noise sources which exceed 60 dB LDN or CNEL (70 LDN or CNEL for outdoor sports and recreation) unless the project design includes effective mitigation measures to reduce noise in outdoor activity areas and interior spaces to or below the levels specified for the given land use in Table 3-1.</p>	<p>Ensure noise levels are acceptable</p>	<p>With mitigation, the noise levels are determined to be acceptable. See Section 4.12, Noise. Therefore, the Project would be consistent with the goal.</p>
<p>Policy 3.3.3: Noise created by new transportation noise sources, including roadway improvement projects, shall be mitigated so as not to exceed the levels specified in Table 3-1 within the outdoor activity areas or interior spaces of existing noise sensitive land uses.</p>	<p>Ensure noise levels are acceptable</p>	<p>With mitigation, the noise levels are determined to be acceptable. See Section 4.12, Noise. Therefore, the Project would be consistent with the goal.</p>
<p>Policy 3.3.4: New development of noise-sensitive land uses shall not be permitted where the noise level due to existing stationary noise sources will exceed the noise level standards of Table 3-2, unless effective noise mitigation measures have been incorporated into the design of the development to reduce noise exposure to or below the levels specified in Table 3-2.</p>	<p>Ensure noise levels are acceptable</p>	<p>With mitigation, the noise levels are determined to be acceptable. See Section 4.12, Noise. Therefore, the Project would be consistent with the goal.</p>
<p>Policy 3.3.5: Noise created by new proposed stationary noise sources or existing stationary noise sources which undergo modifications that may increase noise levels shall be mitigated as follows and shall be the responsibility of the developer of the stationary noise source:</p> <ul style="list-style-type: none"> • Noise levels shall be reduced to or below the noise level standards in Table 3-2 where the stationary noise source will expose an existing noise-sensitive land use (which is listed in the Land Use element as an allowable use within its existing land use category) to noise levels which exceed the standards in Table 3-2. When the affected noise-sensitive land use is Outdoor Sports 	<p>Ensure noise levels are acceptable</p>	<p>With mitigation, the noise levels are determined to be acceptable. See Section 4.12, Noise. Therefore, the Project would be consistent with the goal.</p>

Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
<p>and Recreation, the noise level standards in Table 3-2 shall be increased by 10 Db.</p> <ul style="list-style-type: none"> • Noise levels shall be reduced to or below the noise level standards in Table 3-2 where the stationary noise source will expose vacant land in the Agriculture, Rural Lands, Residential rural, Residential Suburban, Residential Single-Family, Residential Multi-Family, Recreation, Office and Professional, and Commercial Retail land use categories to noise levels which exceed the standards in Table 3-2. • For new proposed resource extraction, manufacturing or processing noise sources or modifications to those sources which increase noise levels: where such noise sources will expose existing noise-sensitive land uses (which are listed in the Land Use Element as allowable uses within their land use categories) to noise levels which exceed the standards in Table 3-2, best available control technologies shall be used to minimize noise levels. The noise levels shall in no case exceed the noise level standards in Table 3-2. 		
<p>Policy 3.3.6: San Luis Obispo County shall consider implementing mitigation measures where existing noise levels produce significant noise impacts to noise-sensitive land uses or where new development may result in cumulative increases of noise upon noise-sensitive land uses.</p>	<p>Ensure noise levels are acceptable</p>	<p>With mitigation, the noise levels are determined to be acceptable. See Section 4.12, Noise. Therefore, the Project would be consistent with the goal.</p>
<p>Goal 5: To avoid or reduce noise impacts through site planning and project design, giving second preference to the use of noise barriers and/or structural modifications to buildings containing noise-sensitive land uses.</p>	<p>Ensure noise levels are acceptable</p>	<p>With mitigation, the noise levels are determined to be acceptable. See Section 4.12, Noise. Therefore, the Project would be consistent with the goal.</p>
<p>County of San Luis Obispo General Plan – Safety Element</p>		

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Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
<i>Goal S-1:</i> Attain a high level of emergency preparedness.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.
<i>Policy S-1 Response:</i> Support the response programs that provide emergency and other services to the public when a disaster occurs. The focus of response activities is saving lives and preventing injury, and reducing immediate property damage.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.
<i>Policy S-2 Emergency Preparedness:</i> Continue to improve preparedness programs that educate and organize people to respond appropriately to disasters. They include education and awareness programs for individuals, families, institutions, businesses, government agencies and other organizations.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.
<i>Policy S-3 Coordination:</i> Improve coordination among City, County and State programs, and among others working to reduce the risks of disasters. This should also include improved coordination with the news media. This will result in more effective preparedness, response and recovery from disasters.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.
<i>Policy S-5 Risk Assessment:</i> Continue investigations that reduce or eliminate long-term risks. Risk assessment activities, effectively carried out, can improve the efficiency and reduce the cost of response and recovery from disasters.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.
<i>Goal S-4:</i> Reduce the threat to life, structures and the environment caused by fire.	Reduce the potential for adverse effects of fires.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials and Section 4.16, Wildfire. Therefore, the Project would be consistent with the goal.
<i>Policy S-14 Facilities, Equipment and Personnel:</i> Ensure that adequate facilities, equipment and personnel are available to meet the demands of fire fighting in San Luis Obispo County based on the level of	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.

Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
service set forth in the fire agency’s master plan.		
Policy S-15 Readiness and Response: The CDF/County Fire Department will maintain and improve its ability to respond and suppress fires throughout the County.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.
Policy S-16 Loss Prevention: Improve structures and other values at risk to reduce the impact of fire. Regulations should be developed to improve the defensible area surrounding habitation.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.
Goal S-5: Minimize the potential for loss of life and property resulting from geologic and seismic hazards.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials and Section 4.7, Geology and Soils. Therefore, the Project would be consistent with the goal.
Policy S-19 Reduce Seismic Hazards: The County will enforce applicable building codes relating to the seismic design of structures to reduce the potential for loss of life and reduce the amount of property damage.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazardous Materials and Section 4.7, Geology and Soils. Therefore, the Project would be consistent with the goal.
Policy S-20 Liquefaction and Seismic Settlement: The County will require design professionals to evaluate the potential for liquefaction or seismic settlement to impact structures in accordance with the currently adopted Uniform Building Code (UBC).	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials and Section 4.7, Geology and Soils. Therefore, the Project would be consistent with the goal.
Goal S-6: Reduce the potential for harm to individuals and damage to the environment from aircraft hazards, radiation hazards, hazardous materials, electromagnetic fields, radon, and hazardous trees.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.
Policy S-26 Hazardous Materials: Reduce the potential for exposure to humans and the environment by hazardous substances.	Reduce the potential for adverse effects of emergencies.	The Project would not have an effect on emergency services. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.
County of San Luis Obispo General Plan – Parks and Recreation Element		
Objective E: Provide a viable coastal access program through the County’s coastal Area Plans and the Local Coastal Program.	Provide coastal access	The Project would result in the removal of existing industrial facilities. While this could enable a future project to

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Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
		provide public coastal access, this Project has no direct impact under CEQA to Coastal Access. P66 was required to provide the County an Irrevocable Offer to Dedicate Vertical Public Access Easement, valid until April 15, 2036, to be consistent with this policy under a previous permit. The OTD will be extended in perpetuity as a condition of approval. Therefore, the Project would be consistent with the goal.
<i>Policy 4.1:</i> Continue to provide and maintain viewing areas, viewing platforms, vertical access, and lateral access along the County’s beaches consistent with the County’s coastal Area Plans and Local Coastal Program. Use joint use opportunities and adopt-an-access programs as they are available.	Maintain coastal access and recreational opportunities.	P66 was required to provide the County an Irrevocable Offer to Dedicate Vertical Public Access Easement, valid until April 15, 2036, to be consistent with this policy under a previous permit. The OTD will be required to be extended in perpetuity as a condition of approval for this project to ensure that any future development would be consistent with this policy. Therefore, the Project would be consistent with the goal.
<i>Objective F:</i> Provide natural areas consistent with Chapter 8 Parks and Recreation Project List, and/or the County’s Agriculture and Open Space Element.	Provide open space	Demolition and removal of industrial facilities would serve to improve natural surrounding areas consistent with this policy. Therefore, the Project would be consistent with the goal.
<i>Policy 4.2:</i> When acquiring a natural area or considering the acceptance of a donation give first priority to sites that meet a majority of the following criteria: <ol style="list-style-type: none"> 1. Provide significant or locally important resource protection. 2. Would add important acreage to an existing County park or natural area. 3. Would allow for meaningful passive recreation, nature appreciation, and public education. 4. Would be better managed by the County than another entity due to its location or other factors. For small areas within a private subdivision, a homeowner’s association or similar 	Provide natural areas and recreational opportunities.	The site is not currently available as a natural area; however, demolition and remediating the area could result in future uses consistent with this policy. Therefore, the Project would be consistent with the goal.

Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
<p>entity should own and maintain areas set aside as mitigation.</p> <p>5. Include a reasonable endowment fund or other funding mechanism/approaches for maintenance.</p> <p>6. The site can be adequately protected and restored by the County or another organization or partnership.</p>		
County of San Luis Obispo General Plan – Agriculture Element		
<p>Goal AG2: Conserve Agricultural Resources.</p> <p>a. Maintain the agricultural land base of the county by clearly defining and identifying productive agricultural lands for long-term protection.</p> <p>b. Conserve the soil and water that are the vital components necessary for a successful agricultural industry in this county.</p>	Conserve Agricultural Resources	Impacts would be less than significant. See Section 4.2, Agricultural Resources. Therefore, the Project would be consistent with the goal.
<p>Goal AG3: Protect Agricultural Lands.</p> <p>b. Maintain and protect agricultural lands from inappropriate conversion to non-agricultural uses. Establish criteria in this element and corresponding changes in the Land Use Element and Land Use Ordinance for when it is appropriate to convert land from agricultural to non-agricultural designations.</p>	Protect Agricultural Resources	Impacts would be less than significant. See Section 4.2, Agricultural Resources. Therefore, the Project would be consistent with the goal.
<p>Policy AGP17 Agricultural Buffers: Protect land designated Agriculture and other lands in production agriculture by using natural or man-made buffers where adjacent to non-agricultural land uses in accordance with the agricultural buffer policies adopted by the Board of Supervisors.</p>	Conserve Agricultural Resources	Impacts would be less than significant. See Section 4.2, Agricultural Resources. Therefore, the Project would be consistent with the goal.
<p>Policy AGP18 Location of Improvements: Locate new buildings, access roads, and structures so as to protect agricultural land.</p>	Conserve Agricultural Resources	Impacts would be less than significant. See Section 4.2, Agricultural Resources. Therefore, the Project would be consistent with the goal.
County of San Luis Obispo General Plan – Land Use Element – Coastal Zone Framework for Planning		
General Goals		

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Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
<p>Environment - Maintain and protect a living environment that is safe, healthful and pleasant for all residents by:</p> <ul style="list-style-type: none"> Balancing the capacity for growth allowed by the Land Use Element with the sustained availability of resources. Mitigating adverse impacts from development using the best available methods and technology, to the maximum extent feasible. 	<p>Maintain a safe and healthful environment</p>	<p>Impacts would be less than significant. See Section 4.1, Aesthetics, 4.9, Hazards and Hazardous Materials, 4.11, Land use and Planning, and 4.12, Noise. Therefore, the Project would be consistent with the goal.</p>
<p>Air Quality - Preserve, protect and improve the air quality of the County by:</p> <ul style="list-style-type: none"> Seeking to attain and maintain state and federal ambient air quality standards. Mitigating to the extent feasible, potential adverse air quality impacts from new development using the best available technology. Minimizing the generation of air pollutants from projected growth. Implementing land use policies and programs that promote and encourage the use of transportation alternatives to the single-passenger vehicle. Minimizing travel distance and trip generation by the location of land uses. Encouraging the use of alternative energy sources such as solar, wind, and wave technology to reduce the use of non-renewable resources. 	<p>Preserve, protect, and improve the air quality of the County</p>	<p>Impacts to Air Quality are mitigated as per Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.</p>
<p>Distribution of Land Uses - Encourage an urban environment that is an orderly arrangement of buildings, improvements, and open space appropriate to the size and scale of development for each community by:</p> <ul style="list-style-type: none"> Maintaining a clear distinction between urban and rural scale development. Rural uses outside of urban and village areas should be predominately agriculture, low-intensity recreation, low-density residential and open space uses, which will preserve and enhance the pattern of identifiable communities. 	<p>Preserve orderly urban environment</p>	<p>Impacts would be less than significant. See Section 4.2, Agricultural Resources. Therefore, the Project would be consistent with the goal.</p>

Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
<ul style="list-style-type: none"> Identifying important agricultural, natural and other rural areas between cities and communities, and working with landowners to maintain their rural character. Encouraging the protection of commercial agricultural land, both prime and non-prime soils, for the production of food, fiber, and other agricultural commodities. 		
<p>Residential Land Uses - Preserve and enhance the quality of residential areas by:</p> <ul style="list-style-type: none"> Protecting residential areas from incompatible and undesirable land uses. 	Protect residential areas.	See Section 4.11, Land Use and Planning. The Project would demolish an industrial activity. Therefore, the Project would be consistent with the goal.
<p>Commercial and Industrial Land Uses - Designate commercial and/or industrial areas that are compatible with overall land use by:</p> <ul style="list-style-type: none"> Creating and preserving desirable neighborhood business characteristics, such as compatible uses, safe employment areas, sense of scale, landscaping, pedestrian ways, and other amenities. 	Protect residential areas.	See Section 4.11, Land Use and Planning. The Project would demolish an industrial activity. Therefore, the Project would be consistent with the goal.
<p>Circulation - Integrate land use and transportation planning by:</p> <ul style="list-style-type: none"> Coordinating with cities to ensure that traffic and transportation demands can be safely and adequately accommodated. 	Safely plan transportation systems	Impacts would be less than significant. See Section 4.15, Transportation. Therefore, the Project would be consistent with the goal.
Land Use Goals		
Reconciling discordant land uses by identifying the relationships between uses that minimize land use conflicts.	Minimize land use conflicts.	Impacts would be less than significant. See Section 4.11, Land Use and Planning. Therefore, the Project would be consistent with the goal.
Providing areas where agricultural, residential, commercial and industrial uses may be developed in harmonious patterns and with all the necessities for satisfactory living and working environments.	Minimize land use conflicts.	Impacts would be less than significant. See Section 4.11, Land Use and Planning. Therefore, the Project would be consistent with the goal.
Protecting coastal resources, public access to the shoreline and visitor-serving areas, as required by the California Coastal Act.	Protect coastal resources, public access	Although the Project is subject to this policy by definition, the policy consistency is not a CEQA issue as there

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Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
		is no direct environmental impact under CEQA. Extending the Offer to Dedicate into perpetuity as a condition of Project approval ensures that future development would provide vertical access with any proposed intensification of use.
County of San Luis Obispo General Plan – Conservation and Open Space Element		
Air Quality		
Goal AQ 1: Per capita vehicle-miles-traveled countywide will be substantially reduced consistent with statewide targets.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Policy AQ 1.2 Reduce vehicle miles traveled: Require Project subject to discretionary review to minimize additional vehicle travel.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Policy AQ 1.9 Use of rail: Encourage and facilitate, where appropriate, the use of railways as an alternative to trucking materials out of the County by preserving existing services and rights-of-way and investigating the feasibility of increasing general freight traffic by developing additional loading facilities. Railways should also be encouraged for use by passengers.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. The Project proposes the use of rail to the extent feasible. Therefore, the Project would be consistent with the goal.
Goal AQ 3: State and federal ambient air quality standards will, at a minimum, be attained and maintained.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Policy AQ 3.1 Coordinate with other jurisdictions: Coordinate with neighboring jurisdictions and affected agencies to address cross-jurisdictional and regional transportation and air quality issues.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Policy AQ 3.2 Attain air quality standards: Attain or exceed federal or state ambient air quality standards (the more stringent if not the same) for measured criteria pollutants.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Policy AQ 3.3 Avoid air pollution increases: Avoid a net increase in criteria air pollutant emissions in planning areas	Preserve and improve the areas air quality	As per the discussion in Section 4.3, Air Quality, the Project would increase particulate emissions in the Nipomo

Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
certified as Level of Severity II or III for Air Quality by the County’s Resource Management System (RMS).		Mesa during construction, designated as an area with Level of Severity III. For short-term activities the Project would be inconsistent with the goal. For long-term activities, it would be beneficial.
Policy AQ 3.4 Toxic exposure: Minimize public exposure to toxic air contaminants, ozone, particulate matter, sulfur dioxide, carbon monoxide, nitrogen oxides, and lead.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Policy AQ 3.5 Equitable decision making: Ensure that land use decisions are equitable and protect all residents from the adverse health effects of air pollution.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Policy AQ 3.6 Strategic growth principles: Ensure that implementation of the Strategic Growth principles and goals are balanced with protection of sensitive receptors near high-volume transportation routes and sources of toxic emissions (i.e., railyards, downtown centers, gasoline development facilities, chrome platers, dry cleaners, and refineries).	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Policy AQ 3.7 Reduce vehicle idling: Encourage the reduction of heavy-vehicle idling throughout the County, particularly near schools, hospitals, senior care facilities, and areas prone to concentrations of people, including residential areas.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Policy AQ 3.8 Reduce dust emissions: Reduce PM ₁₀ and PM _{2.5} emissions from unpaved and paved County roads to the maximum extent feasible.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Goal AQ 4: Greenhouse gas emissions from County operations and communitywide sources will be reduced from baseline levels by a minimum of 15% by 2020.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.8, Greenhouse Gas Emissions. Therefore, the Project would be consistent with the goal.
Policy AQ 4.1 Reduce greenhouse gas emissions: Implement and enforce State legislative or regulatory standards, policies, and programs designed to reduce greenhouse gas emissions.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.8, Greenhouse Gas Emissions. Therefore, the Project would be consistent with the goal.

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Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
<i>Policy AQ 4.2 Identify greenhouse gas emissions:</i> Quantify, reduce, and mitigate greenhouse gas emissions.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.8, Greenhouse Gas Emissions. Therefore, the Project would be consistent with the goal.
<i>Policy AQ 4.4 Development projects and land use activities:</i> Reduce greenhouse gas emissions from development projects and other land use activities.	Preserve and improve the areas air quality	Impacts would be less than significant. See Section 4.8, Greenhouse Gas Emissions. Therefore, the Project would be consistent with the goal.
Biological Resources		
<i>Goal BR 1:</i> Native habitat and biodiversity will be protected, restored, and enhanced.	Protect biological resources	Impacts would be less than significant. See Section 4.4, Biological Resources. Therefore, the Project would be consistent with the goal.
<i>Policy BR 1.3 Environmental review:</i> Require environmental review of development applications pursuant to CEQA and County procedures to assess the impact of proposed development on native species and habitat diversity, particularly special-status species, sensitive natural communities, wetlands, and important wildlife nursery areas and movement corridors.	Protect biological resources	Impacts would be less than significant. See Section 4.4, Biological Resources. Therefore, the Project would be consistent with the goal.
<i>Policy BR 1.9 Preserve ecotones:</i> Require that proposed discretionary development protects and enhances ecotones, or natural transitions between habitat types because of their importance to vegetation and wildlife. Ecotones of particular concern include those along the margins of riparian corridors, baylands and marshlands, vernal pools, and woodlands and forests where they transition to grasslands and other habitat types.	Protect biological resources	Impacts would be less than significant. See Section 4.4, Biological Resources. Therefore, the Project would be consistent with the goal.
<i>Policy BR 1.10 Identify and protect ecologically sensitive areas:</i> Protect and enable management of ecologically sensitive areas to the maximum extent feasible.	Protect biological resources	Impacts would be less than significant. See Section 4.4, Biological Resources. Therefore, the Project would be consistent with the goal.
<i>Goal BR 4:</i> The natural structure and function of streams and riparian habitat will be protected and restored.	Protect biological resources	Impacts would be less than significant. See Section 4.4, Biological Resources. Therefore, the Project would be consistent with the goal.

Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
Policy BR 4.1 Protect stream resources: Protect streams and riparian vegetation to preserve water quality and flood control functions and associated fish and wildlife habitat.	Protect biological resources	Impacts would be less than significant. See Section 4.4, Biological Resources. Therefore, the Project would be consistent with the goal.
Energy		
Goal E 1: The County will have an environmentally sustainable supply of energy for all County residents.	Enhance sustainable energy use	Energy use would be less than significant. See Section 4.6, Energy. Therefore, the Project would be consistent with the goal.
Policy E 1.4 Methane: Increase the use of methane as an energy source from wastewater treatment plants and active and inactive, closed landfills.	Enhance sustainable energy use	Not applicable.
Goal E 3: Energy efficiency and conservation will be promoted in both new and existing development.	Enhance sustainable energy use	Energy use would be less than significant. See Section 4.6, Energy. Therefore, the Project would be consistent with the goal.
Policy E 3.1 Use of renewable energy: Ensure that new and existing development incorporates renewable energy sources, such as solar, passive building, wind and thermal energy. Reduce reliance on non-sustainable energy sources to the extent possible using available technology and sustainable design techniques, materials, and resources.	Enhance sustainable energy use	Energy use would be less than significant. See Section 4.6, Energy. Therefore, the Project would be consistent with the goal.
Policy E 3.2 Energy efficient equipment: Require the use of energy-efficient equipment in all new development, including but not limited to Energy Star appliances, high-energy efficiency equipment, heat recovery equipment, and building energy management systems.	Enhance sustainable energy use	Energy use would be less than significant. See Section 4.6, Energy. Therefore, the Project would be consistent with the goal.
Policy E 3.3 Use of renewable energy for water and wastewater: Promote the use of renewable energy systems to pump and treat water and wastewater.	Enhance sustainable energy use	Energy use would be less than significant. See Section 4.6, Energy. Therefore, the Project would be consistent with the goal.
Goal E 5: Recycling, waste diversion, and reuse programs will achieve as close to zero waste as possible.	Enhance sustainable energy use	Energy use would be less than significant. See Section 4.6, Energy. Therefore, the Project would be consistent with the goal.
Policy E 5.1 Source reduction and waste diversion: Encourage source reduction and	Enhance sustainable energy use	Energy use would be less than significant. See Section 4.6, Energy and

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Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
diversion of solid waste generated to as near zero waste as possible, in order to reduce energy consumption.		Section 4.13, Public Services, Utilities and Service Systems. Therefore, the Project would be consistent with the goal.
Goal E 7: Design, siting, and operation of non-renewable energy facilities will be environmentally appropriate.		Not applicable.
Policy E 7.2 Facility upgrades and replacements: Encourage the upgrade or replacement of existing, older facilities to current safety and environmental standards where appropriate, support the decommissioning and redevelopment of existing, older facilities where current safety and environmental standards cannot be met and existing energy production could be replaced with renewable energy sources. Further, develop a cooperative working relationship with the utility and oil and gas industry, including workshops to provide information about the permitting process.		Not applicable as this is a demolition Project. Therefore, the Project would be consistent with the goal.
Soil Resources		
Goal SL 1: Soils will be protected from wind and water erosion, particularly that caused by poor soil management practices.	Protection of soils	Impacts would be less than significant. See Section 4.7, Geology and Soils, and Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.
Policy SL 1.2 Promote soil conservation practices in all land uses: Require erosion and sediment control practices during development or other soil-disturbing activities on steep slopes and ridgelines. These practices should disperse stormwater so that it infiltrates the soil rather than running off, and protect downslope areas from erosion.	Protection of soils	Impacts would be less than significant. See Section 4.7, Geology and Soils, and Section 4.10, Hydrology and Water Quality. Therefore, the Project would be consistent with the goal.
Water Resources		
Goal WR 1: The County will have a reliable and secure regional water supply (IRWM).	Protection of water supply	Impacts would be less than significant. See Section 4.10, Hydrology and Water Quality. Therefore, the Project would be consistent with the goal.
Policy WR 1.14 Avoid net increase in water use: Avoid a net increase in non-	Protection of water supply	Impacts would be less than significant. Project would reduce water use. See

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Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
agricultural water use in groundwater basins that are recommended or certified as Level of Severity II or III for water supply. Place limitations on further land divisions in these areas until plans are in place and funded to ensure that the safe yield will not be exceeded.		Section 4.10, Hydrology and Water Quality. Therefore, the Project would be consistent with the goal.
Goal WR 3: Excellent water quality will be maintained for the health of people and natural communities.	Protection of water supply and quality	Impacts would be less than significant. See Section 4.10, Hydrology and Water Quality. Therefore, the Project would be consistent with the goal.
Policy WR 3.1 Prevent water pollution: Take actions to prevent water pollution, consistent with federal and state water policies and standards, including but not limited to the federal Clean Water Act, Safe Drinking Water Act, and National Pollutant Discharge Elimination System (NPDES).	Protection of water supply	Impacts would be less than significant. See Section 4.10, Hydrology and Water Quality. Therefore, the Project would be consistent with the goal.
Goal WR 4: Per capita potable water use in the County will decline by 20 percent by 2020.		Not applicable.
Policy WR 4.1 Reduce water use: Employ water conservation programs to achieve an overall 20 percent reduction in per capita residential and commercial water use in the unincorporated area by 2020. Continue to improve agricultural water use efficiency consistent with Policy AGP 10 in the Agricultural Element.	Protection of water supply	Impacts would be less than significant. See Section 4.10, Hydrology and Water Quality. Therefore, the Project would be consistent with the goal.
Policy WR 4.4 Reuse wastewater: The County will work with wastewater system operators to identify and implement programs for reuse of treated wastewater, particularly in landscaping, irrigation, parks, and public facilities.	Protection of water supply	Impacts would be less than significant. See Section 4.10, Hydrology and Water Quality. Therefore, the Project would be consistent with the goal.
San Luis Obispo County Local Coastal Program		
Section 30262. Oil and gas development shall be permitted in accordance with Section 30260, if the following conditions are met: a) The development is performed safely and consistent with the geologic conditions of the well site.	Ensure safe operations of oil and gas facilities	Not applicable. This Project would demolish an oil and gas facility. Therefore, the Project would be consistent with the goal.

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Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
<p>b) New or expanded facilities related to such development are consolidated, to the maximum extent feasible and legally permissible unless consolidation will have adverse environmental consequences and will not significantly reduce the number of producing wells, support facilities, or sites required to produce the reservoir economically and with minimal environmental impacts.</p> <p>c) Environmentally safe and feasible subsea completions are used when drilling platforms or islands would substantially degrade coastal visual qualities unless use of such structures will result in substantially less environmental risks.</p> <p>d) Platforms or islands will not be sited where a substantial hard to vessel traffic might result from the facility or related operations, determined in consultation with the United States Coast Guard and the Army Corps of Engineers.</p> <p>e) Such development will not cause or contribute to subsidence hazards unless it is determined that adequate measures will be undertaken to prevent damage from such subsidence.</p> <p>f) With respect to new facilities, all oil field brines are re-injected into oil-producing zones unless the Division of Oil and Gas of the Department of Conservation determines to do so would adversely affect production of the reservoirs and unless injection into other subsurface zones will reduce environmental risks. Exceptions to re-injections will be granted consistent with the Ocean Waters Discharge Plan of the State Water Resources Control Board and where adequate provision is made for the elimination of petroleum odors and water quality problems.</p>		
<p>Section 30232. Protection against the spillage of crude oil, gas, petroleum products, or hazardous substances shall be</p>	<p>Ensure safe operations of oil and gas facilities</p>	<p>Impacts would be less than significant. See Section 4.9, Hazards and Hazardous</p>

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Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
<p>provided in relation to any development or transportation of such materials. Effective containment and cleanup facilities and procedures shall be provided for accidental spills that do occur.</p>		<p>Materials. Therefore, the Project would be consistent with the goal.</p>
<p>Section 30263.</p> <p>a) New or expanded refineries or petrochemical facilities not otherwise consistent with the provisions of this division shall be permitted if: (1) alternative locations are not feasible or are more environmentally damaging; (2) adverse environmental effects are mitigated to the maximum extent feasible; (3) it is found that not permitting such development would adversely affect the public welfare; (4) the facility is not located in a highly scenic or seismically hazardous area, on any of the Channel Islands, or within or contiguous to environmentally sensitive areas; and, (5) the facility is sited so as to provide a sufficient buffer area to minimize adverse impacts on surrounding property.</p> <p>b) In addition to meeting all applicable air quality standards, new or expanded refineries or petrochemical facilities shall be permitted in areas designated as air quality maintenance areas by the State Air Resources Board and in areas where coastal resources would be adversely affected only if the negative impacts of the project upon air quality are offset by reductions in gaseous emissions in the area by the users of the fuels, or, in the case of an expansion of an existing site, total site emission levels, and site levels for each emission type for which national or state ambient air quality standards have been established do not increase.</p> <p>c) New or expanded refineries or petrochemical facilities shall minimize the need for once-through cooling by using air cooling to the maximum</p>	<p>Ensure safe operations of oil and gas facilities</p>	<p>Not applicable. This Project would demolish an oil and gas facility.</p>

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Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
<p>extent feasible and by using treated waste waters from in plant processes where feasible.</p>		
<p>Policy 25 Air Pollution Standards: Any expansion or modification of existing petroleum processing or transportation facilities or the construction of new facilities shall meet San Luis Obispo County Air Pollution Control District (SLOCAPCD) standards. As a condition of approval, the SLOCAPCD Officer may: Require an air pollutant emission/oil throughput limitation by which allowable oil throughput through the facility is based upon the amount of air pollutant emissions. Set limits on the timing of loading operations when projected oxidant levels exceed designated levels. Require establishment of an ambient air monitoring system in a manner approved by the SLOCAPCD to continuously monitor pollutants and record wind speed and direction.</p>	<p>Ensure safe operations of oil and gas facilities</p>	<p>Impacts would be less than significant. See Section 4.3, Air Quality. Therefore, the Project would be consistent with the goal.</p>
<p>Coastal Watersheds</p>		
<p>Policy 1 Preservation of Groundwater Basins: The long-term integrity of groundwater basins within the coastal zone shall be protected. The safe yield of the groundwater basin, including return and retained water, shall not be exceeded except as part of a conjunctive use or resource management program which assures that the biological productivity of aquatic habitats are not significantly adversely impacted.</p>	<p>Protect groundwater</p>	<p>Impacts would be less than significant. See Section 4.10, Hydrology and Water Quality. Therefore, the Project would be consistent with the goal.</p>
<p>Hazards</p>		
<p>30253. (Portion) New development shall:</p> <ul style="list-style-type: none"> • Minimize risks to life and property in areas of high geologic, flood, and fire hazard. • Assure stability and structural integrity, and neither create nor contribute significantly to erosion, geologic instability, or destruction of the site or 	<p>Protect safety</p>	<p>Impacts would be less than significant. See Section 4.7, Geology and Soils, and Section 4.10, Hydrology and Water Quality. Therefore, the Project would be consistent with the goal.</p>

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Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
surrounding area or in any way require the construction of protective devices that would substantially alter natural landforms along bluffs and cliffs.		
<p>Policy 9 High Fire Risk Areas: Fire hazard areas shall be defined as those having potential for catastrophic fire. The County shall designate and show on the Hazards maps those high risk fire areas as delineated by the State Division of Forestry.</p>	Protect areas from fire impacts	Impacts would be less than significant. See Section 4.9, Hazards and Hazardous Materials, and Section 4.16, Wildfire. Therefore, the Project would be consistent with the goal.
South County Coastal Area Plan		
<p>Permit Requirements. Any proposed modification or expansion of the existing Refinery or coke oven or the construction of partial oil and gas processing facilities to service off-shore derived oil and gas that involves land area beyond that presently developed requires Development Plan approval and shall be subject to the following:</p> <ul style="list-style-type: none"> • Phasing plan for staging development indicating the anticipated time table and site plans for Project initiation, expansion possibilities, completion, consolidation possibilities, and decommissioning (Local Coastal Plan [LCP]). • A fire protection system approved by the governing authority (LCP). • Screening of the facilities from public view through height limitations, careful site design, artificial contoured banks and mounding, extensive landscaping, and decorative walls and fences (LCP). • Any part of the facilities that cannot effectively be screened by the above methods shall be painted with nonreflective paint of colors that blend with the surrounding natural landscape (LCP). • Oil spill contingency plan (using most effective feasible technology) indicating the location and type of cleanup equipment, designation of responsibilities for monitoring, 	Ensure safe expansion and modification of oil and gas refining	Impacts would be less than significant. The Project proposes demolition and removal of the Refinery. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.

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Table 4.11.3 Preliminary Policy Consistency Analysis

Goals, Policies, Plans, Programs, and Standards	Intent of the Policy in Relation to Avoiding or Mitigating Significant Environmental Impacts	Preliminary Consistency Determination
cleanup, waste disposal and reporting of incidents and provisions for periodic drills by the operator, as requested by the County, to test the effectiveness of the cleanup and containment equipment and personnel (LCP).		
Limitation on Use. All uses are prohibited except petroleum refining and related industries (including partial oil and gas processing and related industries); coastal access ways; water wells and impoundments; and pipelines and power transmissions. No off-road vehicular use is permitted other than for management of the industrial and natural areas (LCP).	Ensure safe expansion and modification of oil and gas refining	Impacts would be less than significant. The Project proposes demolition and removal of the Refinery. See Section 4.9, Hazards and Hazardous Materials. Therefore, the Project would be consistent with the goal.
Site Location. Site location shall minimize impacts to identified rare and endangered plant species and be located to provide a buffer from exposed dune areas on site. A qualified biologist shall survey the site and make recommendations on siting alternatives and appropriate mitigation (LCP).	Minimize plant impacts	Impacts would be less than significant. See Section 4.4, Biological Resources. Therefore, the Project would be consistent with the goal.

4.11.6 Mitigation Measure Impacts to Other Issue Areas

Mitigation measures are discussed in their respective sections. No new mitigation measures are proposed for Land Use and Planning.

4.11.7 Cumulative Impacts

Existing and foreseeable future projects within the Project region are identified in Chapter 3.0, Cumulative Study Area. As discussed above, implementation of the Project would generally be consistent with the majority of applicable land use plans, policies, and regulations adopted for the purpose of avoiding or mitigating an environmental effect. The Project would be inconsistent with one of the General Plan land use policies, as described and evaluated above, related to air quality on the Nipomo Mesa and Policy AQ 3.3 Avoid Air Pollution Increases:

Avoid a net increase in criteria air pollutant emissions in planning areas certified as Level of Severity II or III for Air Quality by the County’s Resource Management System (RMS).

Impacts associated with inconsistency with Policy AQ 3.3 would be cumulative in nature, in that the Project would contribute to an existing issue of particulate on the Nipomo Mesa, which includes the Project area. Generally, all air quality impacts are cumulative in nature. Without the existing issues on the Nipomo Mesa, the Project's contribution would most likely be less than significant. Therefore, inconsistency with Policy AQ 3.3 would result in a significant cumulative impact. Mitigation measures have been identified in Section 4.3, Air Quality, including mitigation measure AQ.1-1 and AQ.3-1 which would reduce fugitive dust and particulate emissions, but emissions would still continue to be generated.

4.11.8 References

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4.12 Noise

This section describes the potential impacts of noise and vibration from the Project on nearby receptors. The environmental setting describes the existing noise levels at noise-sensitive locations nearest to the Project site. This section also describes the regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition of aboveground infrastructure and remediation of the site, followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

4.12.1 Environmental Setting

Noise is often defined as unwanted sound, which is perceived subjectively by individuals. Noise levels at various locations of an area fluctuate and change character during different periods of the day. Exposure to severe noise levels over prolonged periods can cause physiological changes, including ear damage. The acceptability of more common noise levels and types of noise varies among neighborhoods, individuals, and time of day. The following sections describe the concepts and terminology of noise and vibration and documents existing noise levels at noise sensitive locations nearest to the Project site.

4.12.1.1 Noise Terminology

Sound is technically described in terms of amplitude (loudness) and frequency (pitch). The standard unit of sound amplitude measurement is the decibel (dB). The decibel scale is a logarithmic scale that describes the physical intensity of the pressure vibrations that make up any sound. The pitch of the sound is related to the frequency of the pressure vibration. Because the human ear is not equally sensitive to a given sound level at all frequencies, a special frequency-dependent rating scale has been devised to relate noise to human sensitivity. The A-weighted decibel scale (dBA) provides this compensation by discriminating against frequencies in a manner approximating the sensitivity of the human ear.

A typical noise environment consists of a base of steady background noise that is the sum of many distant and indistinguishable noise sources. Superimposed on this background noise are the sounds from individual local sources. These sounds can vary from an occasional aircraft flyover to virtually continuous noise from traffic on a nearby roadway. Table 4.12.1 lists representative noise levels for specific activities.

Several rating scales have been developed to analyze the adverse effect of noise on people. Because environmental noise fluctuates over time, these scales consider that the effect of noise upon people largely depends upon the total acoustical energy content of the noise, as well as the time of day

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when the noise occurs. The rating scales of Equivalent Continuous Sound Level (Leq), minimum instantaneous noise level (Lmin), and the maximum instantaneous noise level (Lmax) are measures of ambient noise, while the Day-Night Average Level (Ldn) and Community Noise Equivalent Level (CNEL) are measures of community noise (or noise levels with penalties for noise in the evening or nighttime). Leq is the average A-weighted sound level measured over a given time interval. Leq can be measured over any time period, but is typically measured for 1-minute, 15-minute, 1-hour, and 24-hour periods. CNEL is another A-weighted average sound level measured over a 24-hour time period.

Table 4.12.1 Representative Environmental Noise Levels

Common Outdoor Activities	Noise Level (dBA)	Common Indoor Activities
	—110—	Rock Band
Jet Fly-over at 100 feet	—105—	
	—100—	
Gas Lawnmower at 3 feet	—95—	
	—90—	
	—85—	Food Blender at 3 feet
Diesel Truck going 50 mph at 50 feet	—80—	Garbage Disposal at 3 feet
Noisy Urban Area during Daytime	—75—	
Gas Lawnmower at 100 feet	—70—	Vacuum Cleaner at 10 feet
Commercial Area	—65—	Normal Speech at 3 feet
Heavy Traffic at 300 feet	—60—	
	—55—	Large Business Office
Quiet Urban Area during Daytime	—50—	Dishwasher in Next Room
	—45—	
Quiet Urban Area during Nighttime	—40—	Theater, Large Conference Room (background)
Quiet Suburban Area during Nighttime	—35—	
	—30—	Library
Quiet Rural Area during Nighttime	—25—	Bedroom at Night, Concert Hall (background)
	—20—	
	—15—	Broadcast/Recording Studio
	—10—	
	—5—	
Lowest Threshold of Human Hearing	—0—	Lowest Threshold of Human Hearing

Note: Idling locomotive would have a noise level of about 75 dBA at 50 feet.

Source: FTA 2018

This noise scale is adjusted to account for some individuals' increased sensitivity to noise levels during the evening and nighttime hours. Leq, Lmin, and Lmax, as well as Ldn and CNEL are all applicable to this analysis and defined as follows:

- Leq, the equivalent energy noise level in dBA, is the average acoustic energy content of noise for a stated period of time. Thus, the Leq of a time-varying noise and that of a steady noise are the same if they deliver the same acoustic energy to the ear during exposure. For evaluating community impacts, this rating scale does not vary, regardless of whether the noise occurs during the day or the night;

- Ldn, the Day-Night Average Level, is a 24-hour average Leq with a 10 dBA ‘weighting’ or penalty added to noise the hours of 10:00 p.m. to 7:00 a.m. to account for people’s increased noise sensitivity during the nighttime. The logarithmic effect of these additions is that a 60 dBA 24-hour Leq would result in a measurement of 66.4 dBA Ldn;
- CNEL, the Community Noise Equivalent Level, is a 24-hour average Leq with a 5 dBA “weighting” during the hours of 7:00 p.m. to 10:00 p.m. and a 10 dBA “weighting” added to noise during the hours of 10:00 p.m. to 7:00 a.m. to account for noise sensitivity in the evening and nighttime, respectively. The logarithmic effect of these additions is that a 60 dBA-24-hour Leq would result in a measurement of 66.7 dBA CNEL;
- Lmin is the minimum instantaneous noise level experienced during a given period of time, in dBA; and
- Lmax is the maximum instantaneous noise level experienced during a given period of time, in dBA.

Noise environments and consequences of human activities are usually well represented by average noise levels during the day or night, or over a 24-hour period, as represented by the Ldn or the CNEL. Environmental noise levels are generally considered low when the CNEL is less than 60 dBA, moderate in the 60 to 70 dBA range, and high greater than 70 dBA. Examples of low daytime noise levels are isolated, natural settings that can provide noise levels under 30 dBA and quiet, suburban, residential streets that can provide noise levels around 40 dBA. Noise levels above 45 dBA at night can disrupt sleep. Examples of moderate-level noise environments are urban residential or semi-commercial areas (typically 55 to 60 dBA daytime Leq) and commercial locations (typically above 60 dBA daytime Leq). People may consider louder environments adverse, but most will accept the higher noise levels associated with noisier urban residential or residential-commercial areas (60 to 75 dBA) or dense urban or industrial areas (65 to 80 dBA) due to the expectations within the land use. For example, people might accept these noise levels when out shopping, on the freeway or visiting their mechanic, but these levels would not be acceptable when at home.

When evaluating changes in noise levels, a difference of 3 dBA is a barely perceptible increase to most people (Caltrans 2020). A 5-dBA increase is readily noticeable, while a difference of 10 dBA would be perceived as a doubling of loudness. New development within a community could potentially lead to activities that increase the 24-hour community noise levels.

4.12.1.2 Noise Effects

Noise levels are reduced the farther away a receptor is from the source because of several effects, including geometry, atmosphere, ground, and barriers. These are discussed below.

Geometric Effects

Geometric effect refers to the spreading of sound energy as a result of the expansion of the wavefronts. Geometric spreading is independent of frequency and has a major effect in almost all sound propagation situations. There are two common kinds of geometric spreading: spherical and cylindrical spreading. Spherical spreading occurs from a point source, which is due to a noise source radiating sound equally in all directions; the sound level is reduced by 6 dB for each

doubling of distance from the source. A busy highway is an example of a cylindrical source with equal sound power output per unit length of highway. A cylindrical source will produce cylindrical spreading, resulting in a sound-level reduction of 3 dB per doubling of distance.

Atmospheric Effects

Atmospheric effects are due to air absorption and wind and temperature gradients. Air absorption is primarily due to the “molecular relaxation effect” between air molecules, where air molecules are excited and then relaxed by the passing sound pressure wave. High frequencies are absorbed more than low frequencies. The amount of absorption depends on the temperature and humidity of the atmosphere.

Precipitation (rain, snow, or fog) has a nominal effect on sound levels although the precipitation will affect the humidity and may also affect wind and temperature gradients. Atmospheric absorption is only an issue at higher frequencies and is a strong function of humidity and temperature. For example, at 68 degrees Fahrenheit (°F) and 70 percent humidity, air absorption of sound at frequencies of 16,000 hertz (Hz) occurs at approximately 8 dB per 100 feet. However, at 0 percent humidity, the rate drops to approximately 1 dB per 100 feet.

Under normal circumstances, atmospheric absorption can be neglected except where long distances or high frequencies are involved (greater than 4,000 Hz). At less than 2,000 Hz, the rate of sound level drop, due to air absorption, is less than 0.25 dB per 100 feet (at 68°F and 70 percent humidity).

Under conditions of a temperature inversion (temperature increasing with increasing height), the sound waves will be refracted downwards, and therefore may be heard over larger distances. This frequently occurs in winter and at sundown.

When a wind is blowing there will be a vertical wind gradient because the layer of air next to the ground is stationary. A vertical wind gradient results in sound waves propagating upwind being ‘bent’ upwards and those propagating downwind being ‘bent’ downwards. This effect can cause noise levels downwind to be higher than those upwind.

Temperature and wind gradients can result in measured sound levels being very different to those predicted from geometrical spreading and atmospheric absorption considerations alone. These differences may be as great as 20 dB. These effects are particularly important where sound is propagating over distances greater than 500 feet. Temperature inversions and winds can also result in the effectiveness of a barrier being dramatically reduced. These variables are addressed as part of the noise modeling conducted for the Project.

Ground and Barrier Effects

If sound is propagating over ground, attenuation will occur due to acoustic energy losses on reflection. These losses will depend on the surface. Smooth, hard surfaces will produce little absorption, whereas thick grass may result in sound levels being reduced by up to about 10 db per 300 feet at 2000 Hz. High frequencies are generally attenuated more than low frequencies.

Reflection from the ground can result in another mechanism by which sound levels are reduced. When the source and receiver are both close to the ground, the sound wave reflected from the ground may interfere destructively with the direct wave. This effect, called the ground effect, is

normally noticed over distances of several yards or more, and in the frequency range of 200 to 600 Hz.

Research on propagation through trees yields conflicting results. Dense shrubbery can produce effective noise attenuation. A band of trees several hundred feet deep is required to achieve significant attenuation.

Significant attenuation can be achieved with solid barriers. A barrier should be at least high enough to obscure the ‘line of sight’ between the noise source and receiver. A barrier is most effective for high frequencies since low frequencies are diffracted around the edge of a barrier more easily. The maximum performance of a barrier is limited to about 40 dB, due to scattering by the atmosphere. A barrier is most effective when placed either very close to the source or the receiver.

Barriers not built for acoustical purposes are often found in sound propagation situations. The most common of these are hills and buildings. In urban situations, buildings can be effective barriers. It is possible for buildings to produce a different acoustical effect. In a city street with tall buildings, multiple reflections from parallel building facades can result in considerable reverberation and consequently reduced attenuation.

The propagation of sound is very complex and influenced by a large number of factors. This report examines the attenuation of sound due to geometry, barriers specifically placed by the Project or mitigation measures, and barriers such as the terrain, as well as air absorption for the linear decibel scale analysis incorporated into a computer model.

Tonal Effects

Noise in which a single frequency stands out is said to contain a ‘pure tone.’ Sources that produce pure tones are often described as being ‘tonal’ and tend to be more noticeable – and potentially annoying – to humans than sources that do not contain pure tones. In assessing the subjective impact of tonal noise, it is common practice to take this increased annoyance into account by adding a 5-dBA penalty to the measured noise level.

Effects on Wildlife

Wildlife response to sound is dependent not only on the magnitude but also the characteristic of the sound, or the sound frequency distribution and whether the sound is natural or human made (noise). Wildlife is affected by a broader range of sound frequencies than humans. Therefore, a linear decibel scale (non-A weighted) analysis is preferred for wildlife impact analysis. Noise is known to affect an animal’s physiology and behavior, and chronic noise-induced stress can be deleterious to an animal’s energy budget, reproductive success, and long-term survival (Radle 2007; Shannon et al. 2015).

Modeling Noise Impacts

Models are often used to estimate noise levels from proposed activities and to estimate noise levels under a range of meteorological conditions. In addition, modeling can estimate the effect of noise mitigation devices, such as sound walls and noise blankets. Noise models can incorporate a variety of environmental conditions, including the level of ground absorption, humidity, temperature inversions, atmospheric absorption, terrain, building reflections, and road type, as well as sources including automobiles, railroads, aircraft, and industry. Both A-weighted and octave band analysis

can be performed with models. In addition, models incorporate a number of standards and methods, including International Organization for Standards (ISO) 9613 and the FHWA Traffic Noise Model (TNM).

ISO 9613 specifies an engineering method for calculating the attenuation of sound during propagation outdoors to predict environmental noise levels at a distance from a variety of sources. ISO 9613 requires noise estimation using a downwind propagation under a mildly developed temperature inversion (both of which enhance sound propagation) and provides a case representation of potential effects during conditions that favor transmission of sound to the receptor. Since these conditions do not occur every day, model predictions using the ISO 9613 requirements are conservative.

In 1998, the Federal Highway Administration (FHWA) released the traffic noise model (TNM), which was developed to aid compliance with policies and procedures under FHWA regulations. The FHWA TNM addresses five different vehicle types (automobiles, medium trucks, heavy trucks, buses, and motorcycles), constant- and interrupted-flow traffic, and different pavement types, as well as the effects of graded roadways.

The FHWA has also developed a Roadway Construction Noise Model (RCNM) used to estimate the noise levels associated with construction activities.

The primary noise models currently available that incorporate ISO 9613 and TNM are SoundPLAN[®] and Computer Aided Noise Abatement (CadnaA). Each of these high-end computational models enables a wide range of analysis.

In addition to complex noise models, simple spreadsheet models addressing only the geometric propagation of noise are utilized to conservatively estimate the effects of noise activities on receptors.

For assessing rail noise, the Federal Transportation Administration (FTA) has developed specific noise models to assess railroad noise (FTA 2018) based on a variety of factors including locomotive types, number of locomotives, number of cars, speed, track type and horn activity.

Noise Mitigation

Since industry and transportation related noise can often impact sensitive receptors, many mitigation methods are available to reduce this noise, including walls, engine exhaust silencers, mufflers, acoustical equipment enclosures, noise-absorbing blankets and padding, and sound-dampening flooring and siding materials. Properly installed acoustical materials can reduce noise by up to 40 dB, averaged over the frequency range.

The noise-reducing efficiency of insulating and acoustical materials is greater for higher frequency noise. For example, sound with a frequency of 4,000 Hz could be reduced as much as 50 to 60 dB by the same materials that would reduce 125 Hz frequency noise by less than 10 dB. Therefore, the choice of material and noise barrier design are functions of the type of equipment generating the noise.

A sound transmission class (STC) number, expressed as a frequency, rates insulating and noise barrier material as an average decibel loss across several sound frequencies. The stated STC for a

given material is generally the maximum decibel reduction achievable with a perfect enclosure. Table 4.12.2 lists several barrier materials and their STC ratings.

Both the engine operation and the exhaust system of internal combustion engines generate noise. Advanced silencers and mufflers can reduce exhaust system noise levels by 10 dBA for industrial grade and by as much as 40 dBA for hospital grade silencers.

Table 4.12.2 Sound Loss by Various Noise Barrier Materials

Sound Transmission Class of Materials	STC (dB)
Concrete, 12 inches thick	53
Concrete block wall, unpainted	44
Metal panel, 4 inches thick (solid and perforated)	41
Metal panel, 2 inches thick (solid and perforated)	35
Fiberglass curtain, 2 inches with barrier of 2.5 pounds per square foot	33
Steel wall, 3/16 inch thick	31
Gypsum wallboard, 5/8 inch thick	30
Fiberglass curtain, 1 inch, barrier of 1.3 pounds per square foot	27
Wood door, solid core, closed	27
Plasterboard, 3/8 inch	26
Barrier material, density of 1.5 pounds per square foot	27
Barrier material, density of 2.5 pounds per square foot	33
Steel, 22-gauge	25

Note: STC = Sound Transmission Class, a single number rating derived from decibel loss data at several frequencies.

Source: USHUD 2009

Noise barriers attenuate sound in four ways: diffraction, absorption, reflection, and reduced transmission. Diffraction mechanisms reduce noise by extending the distance that noise waves travel to the receiver from the source (see Figure 4.12-1). The noise barrier material absorbs some noise energy, while some noise is transmitted through the barrier but at a reduced energy level, and some noise is reflected from the barrier and does not reach the receiver.

Transmitted noise is typically not taken into consideration when modeling noise attenuation by noise barriers because this noise is typically significantly lower than the source noise (FHWA 2006a). The highest noise is from the diffracted portion of the attenuated noise.

4.12.1.3 Vibration

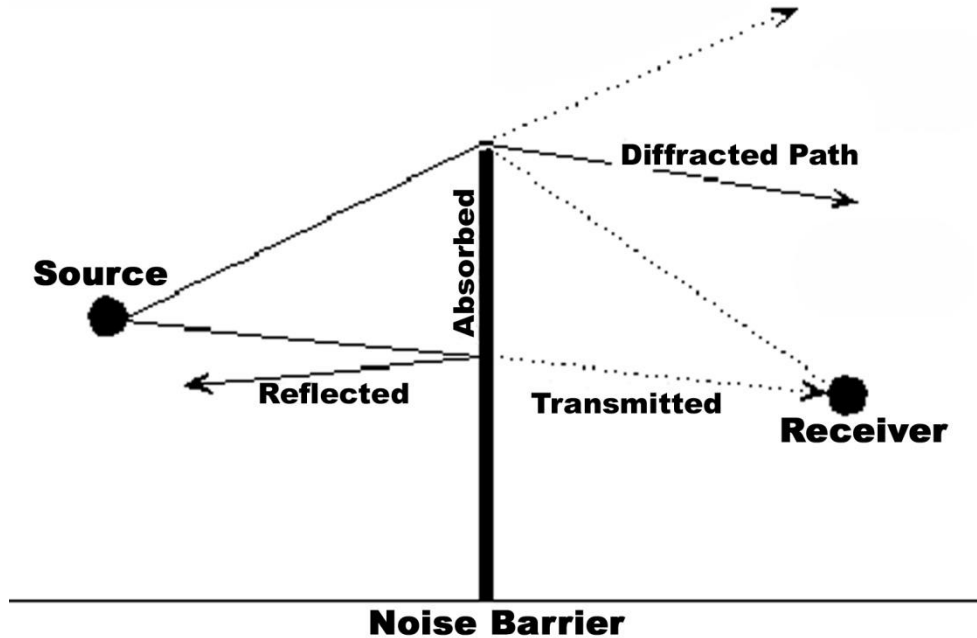
Vibration is acoustic energy transmitted as pressure waves through a solid medium, such as soil or concrete. Like noise, the rate at which pressure changes occur is the frequency of the vibration, measured in hertz (Hz). Vibration may be the form of a single pulse of acoustical energy, a series of pulses, or a continuous oscillating motion.

Ground-Borne Vibration

The extent that vibration is transmitted through the ground depends on the soil type, the presence of rock formations or man-made features and the topography between the vibration source and the receptor location. These factors vary considerably from site to site and make accurate predictions

of vibration levels at receptors distant from the source extremely difficult (often impossible) in practice.

Figure 4.12-1 Noise Attenuation Mechanisms



Source: FHWA 2000

As a general rule, vibration waves tend to dissipate and reduce in magnitude with distance from the source. Also, high frequency vibrations are generally attenuated rapidly as they travel through the ground, so that the vibration received at locations distant from the source tends to be dominated by low-frequency vibration. The frequencies of ground-borne vibration most perceptible to humans are in the range from less than 1 Hz up to 100 Hz.

When a ground-borne vibration arrives at a building, there is usually an initial ground-to-foundation coupling loss. However, once the vibration energy is in the building structure it can be amplified by the resonance of the walls and floors. Occupants can perceive vibration as motion of the building elements (particularly floors) and also rattling of lightweight components, such as windows, shutters, or items on shelves. Vibrating building surfaces can also radiate noise, which is typically heard as a low-frequency rumbling known as ground-borne noise. At very high levels, low-frequency vibration can cause damage to buildings.

Soil and subsurface conditions are known to have a strong influence on the levels of ground-borne vibration. Among the most important factors are the stiffness and internal damping of the soil and the depth to bedrock. Experience with ground-borne vibration is that vibration propagation is more efficient in stiff clay soils, and shallow rock seems to concentrate the vibration energy close to the surface and can result in ground-borne vibration problems at large distances from the track. Factors such as layering of the soil and depth to water table can have significant effects on the propagation of ground-borne vibration (FTA 2018).

Vibration Measurement

Vibration may be defined in terms of the displacement, velocity, or acceleration of the particles in the medium material. In environmental assessments, where human response is the primary concern, velocity is commonly used as the descriptor of vibration level, expressed in millimeters per second (mm/s). The amplitude of vibration can be expressed in terms of the wave peaks or as an average, called the root mean square (rms). The rms level is generally used to assess the effect of vibration on humans. Vibration levels for typical sources of ground-borne vibration are shown in Table 4.12.3.

Table 4.12.3 Typical Levels of Ground-Borne Vibration

Source	Typical Velocity at 50 feet (inches/second, rms)	Human or Building Response
Pile Driver, impact, sheet piling	0.40	Damage to fragile buildings
Blasting from construction projects	0.10	Minor cosmetic damage to fragile buildings
Bulldozers and other heavy tracked construction equipment.	0.06	Workplace annoyance; difficulty with vibration-sensitive tasks.
Commuter rail, upper range	0.02	
Rapid transit rail, upper range	0.010	Distinctly perceptible; residential annoyance for infrequent events
Commuter rail, typical range	0.008	
Bus or truck over bump	0.004	Barely perceptible; residential annoyance for frequent events
Rapid transit rail, typical range	0.003	
Bus or truck typical	0.002	Threshold of perception
Background vibration	0.0004	None

Notes: rms = root mean square

Source: FTA 2018 (Table 7-4 and Figure 5-4), with PPV converted to rms with reference velocity of 1×10^{-6} in seconds

Vibration can produce several types of wave motion in solids including compression, shear, and torsion, so the direction in which vibration is measured is significant and should generally be stated as vertical or horizontal. Human perception also depends to some extent on the direction of the vibration energy relative to the axes of the body. In whole-body vibration analysis, the direction parallel to the spine is usually denoted as the z-axis, while the axes perpendicular and parallel to the shoulders are denoted as the x- and y-axes, respectively.

Large vehicles can also increase ground vibration along streets that they travel. Vibration would be a function of the vehicle speeds and the condition of the pavement. California Department of Transportation (Caltrans) indicates that:

Vehicles traveling on a smooth roadway are rarely, if ever, the source of perceptible ground vibration” and that “vibration from vehicle operations is almost always the result of pavement discontinuities, the solution is to smooth the pavement to eliminate the discontinuities (Caltrans 2020).

Trucks traveling on area roadways could cause vibrations at nearby receptors if roadways are not maintained.

4.12.1.4 Receptors

Some land uses are more sensitive to noise than others, due to the amount of noise exposure and the types of activities typically involved. Residential areas, schools, libraries, religious institutions, hospitals, nursing homes, parks, some wildlife areas, and quiet outdoor recreation areas are generally more sensitive to noise than are commercial and industrial land uses. Receptors near the Project site include:

- Oceano Dunes State Vehicular Recreation Area (ODSVRA);
- Oso Flaco Lake and Dunes;
- Fire Station No. 22 to the north on State Route 1 (Willow Road);
- Residences along Monadella Street and areas to the north and south of State Route 1 (Willow Road);
- Commercial uses north and south of State Route 1 (Willow Road);
- Agricultural uses to the east and south along State Route 1 (Cabrillo Highway);
- Golf course and residences to the east along State Route 1 (Cabrillo Highway); and
- Residences along routes to and from U.S. Highways 101 and 166.

In addition, areas along the railroad route that runs from the Santa Maria Refinery (SMR) are exposed to elevated noise levels due to the passenger and freight trains that run along the railroad route.

4.12.1.5 Existing Noise Sources

Historical operations at the SMR constitute one noise source in the Project area. Other noise sources near the Project site and nearby vicinity contributing to the noise environment include traffic on adjacent roads, railroad operations, and commercial, agricultural, and industrial operations at neighboring facilities. The following sections discuss each of these noise sources.

Traffic Noise

The predominant sources of traffic noise near the Project site are vehicles on State Route 1. Noise levels from traffic are estimated in the County of San Luis Obispo (County) General Plan Noise Element for 2010 traffic levels, which are estimates generated at the time of the Noise Element adoption in 1992 (County 1992). The Noise Element estimates that CNEL (or Ldn) noise levels along State Route 1 near the Project site exceed 65 dBA due to roadway noise. Table 4.12.4 shows centerline distances to specific noise levels.

Existing traffic-generated noise levels were also modeled using a version of the Federal Highway Administration Traffic Noise Model (FHWA 2018) and traffic data provided by the County and Caltrans for traffic levels in 2021. This analysis was conducted in order to demonstrate the noise levels associated with current traffic levels (the Noise Element addresses estimated traffic levels for 2010). The analysis indicates that areas along State Route 1 near the SMR are exposed to a traffic-generated CNEL of 67 dBA (at 100 feet from the road centerline). See Table 4.12.4.

Table 4.12.4 Roadway and Railroad Noise Levels: Noise Element and Calculated Current

Roadway	Segment	Noise at 100 feet, CNEL	Distance to Noise Contour, feet		
			60 CNEL	65 CNEL	70 CNEL
FHWA Model Calculated Values: Current Traffic Levels (2021), FTA Train model					
State Route 1	At Santa Maria Refinery entrance	66.6	461	146	46
Willow Road	At Highway 1	64.1	261	82	26
Railroad Mainline	At Santa Maria Refinery	74.9	554	311	175
Noise Element Values (estimated for 2010 traffic levels)					
State Route 1	Santa Barbara County to Valley Road	-	136	63	29
State Route 1	Valley Road to Halcyon Road	-	223	104	48
Railroad Mainline	Grade Crossing	-	525	244	113

Notes: Distances are in feet from roadway centerline. Local streets based on County Public Works Traffic Counts from December 2021. Time of day distribution based on Noise Element Technical Reference Document. Source: Rail noise based on FTA calculations assuming one freight train at night, six passenger trains per 24-hour period plus one train per week from the SMR

Railroad Noise

The railroad runs through the SMR site. Noise levels due to railroad activity are estimated in the County General Plan Noise Element. These estimates are based on ten freight and four passenger trains per day. Distances to the 60 dB contour value range up to 525 feet from a grade crossing (see Table 4.12.4). Other areas along the mainline track would experience similar railroad noise levels depending upon the amount of other rail traffic. Modeling was also conducted utilizing the FTA models to estimate the impacts of train noise including the SMR train activities (see Table 4.12.4).

Commercial, Industrial, Residential, and Recreational Noise

The area near the Project site includes some industrial and commercial uses, as well as residential and recreational uses that could generate noise which include the following:

- Recreational vehicular uses to the west at the ODSVRA;
- County Fire Department activities to the north at Fire Station No. 22;
- Residential activities to the north along Monadella Street;
- Industrial and commercial uses along State Route 1 (Willow Road);
- Industrial uses, such as a junk yard, recreational vehicle storage and repair, and auto sales, to the northeast on Alley Oop Way and Gasoline Alley Place; and
- Recreational and golf activities to the east at Monarch Dunes Golf Club along State Route 1 (Cabrillo Highway).

All of these locations produce noise on an intermittent basis due to activities.

Agricultural Noise

The County General Plan Noise Element discusses noise associated with agricultural operations. Noise levels from agricultural sources to the east and southwest of the SMR include diesel engines (74 to 85 dBA at 50 feet) and tractors (72 to 75 dBA at 50 feet).

4.12.1.6 Noise Measurements

Noise measurements involve utilizing a noise meter and measuring the level of noise in different locations, generally residential areas, areas along transportation routes and areas along the fence line of the SMR. Measurements have been historically obtained and documented in a variety of sources including:

- Previous environmental impact report (EIR) analysis' Throughput EIR (County 2012) in 2011 and 2014, in the vicinity of the Project site, and along transportation routes;
- Previous EIR analysis Rail Spur EIR (County 2015) in 2015 by the Applicant and the EIR consultant; and
- By the Applicant for the Project in 2022.

The results of these measurements and their locations are shown in Figure 4.12-2 and Table 4.12.5. The 2011 measurements (County 2012) were taken at four locations during the day, evening, and nighttime to allow for a calculation of CNEL. The 2014 measurements (County 2015) were taken at three locations near residential areas and were monitored continuously over three days.

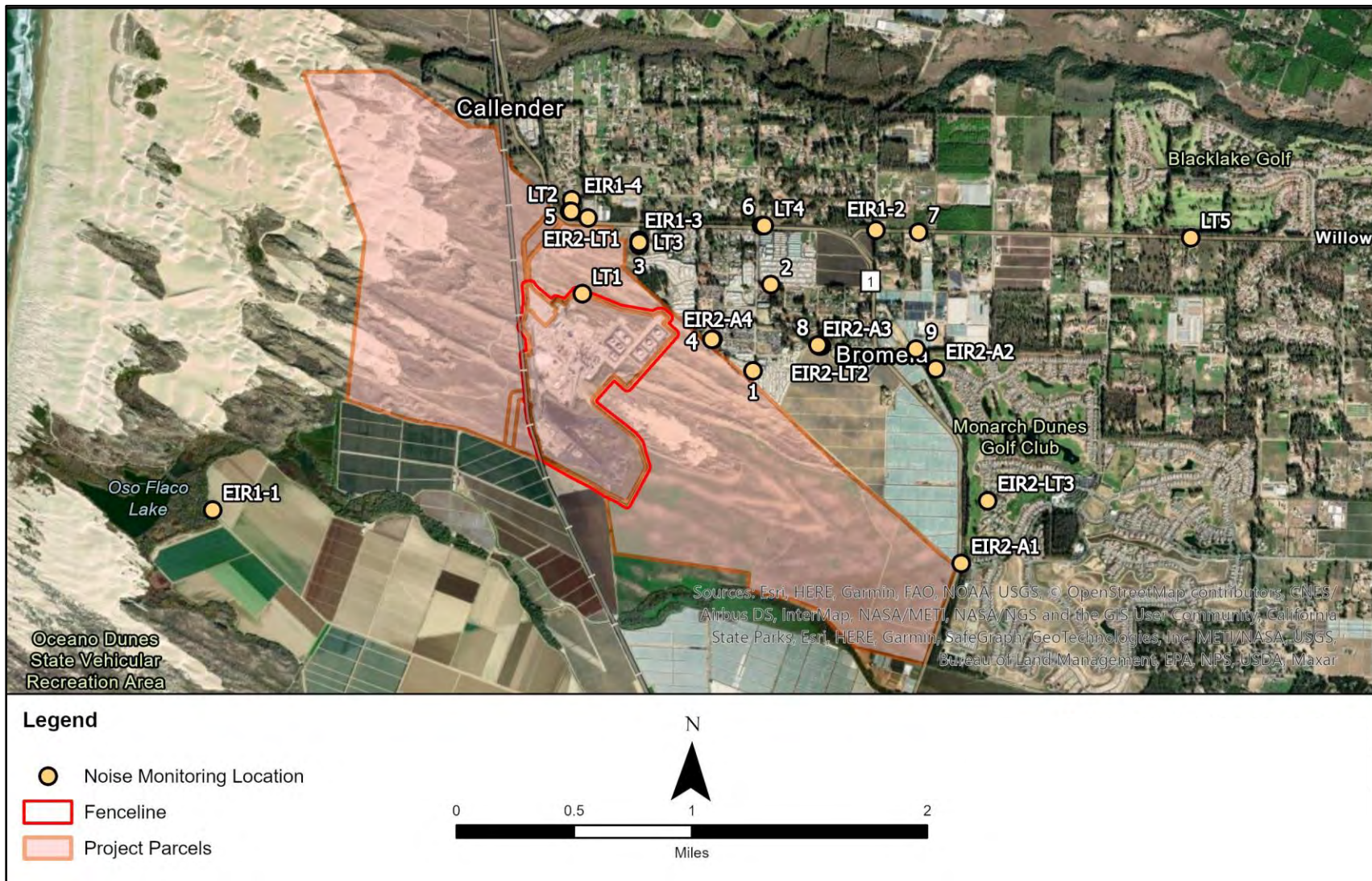
The Rail Spur EIR also included noise measurements as submitted in the Project's application materials as well as noise measurements taken during train movements at the SMR. Noise measurements were conducted at specific locations listed in Table 4.12.5.

Phillips 66 also included noise measurements as submitted in the Project's application materials. Noise measurements were conducted at specific locations listed in Table 4.12.5.

The noise baseline in the area is generally dominated by traffic noise, which produces a CNEL up to 69 dBA CNEL for areas close to roadways (along State Route 1) with a minimum level of 51 dBA CNEL away from roadways. Residential areas experience daytime minimum hour noise levels down to 43 dBA Leq with a nighttime minimum hour of 39 dBA Leq. The minimum hour number is used to define the potential impacts of a project as the incremental increase in noise levels would be greatest over a minimum hour.

In 2014 measurements associated with the Rail Spur EIR were also taken during the daytime, both at the residential areas and at the SMR during train movements. These measurements were taken by the EIR consultant. On January 29, 2014, in the morning, 34 rail cars of coke were picked up by two locomotives from the coke area at the SMR (i.e., in the western portion of the proposed Rail Spur Project footprint). Noise monitoring was conducted during these activities to refine the noise levels used in the noise model and to assess the potential impacts of actual rail movements on area receptors.

Figure 4.12-2 Noise Monitoring Locations



Note: Locations are approximate.
 Source: Prepared as part of the EIR by MRS 2023

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Table 4.12.5 Historical Ambient Noise Levels Near the Project Site

#	Location	Daytime Leq (dBA)	Evening Leq (dBA)	Nighttime Leq (dBA)	CNEL (dBA)	Noise Sources
EIR1-1	Oso Flaco Lake Parking Lot	43.6	40.1	48.9	54.9	Visitors, wind, surf, automobiles, birds, frogs (at night) tractors
EIR1-2	Willow Road and Guadalupe Road	65.8	65	60.9	68.9	Traffic noise on Willow and Highway 1
EIR1-3	Winterhaven Way	59.2	51.5	42.0	57.3	Traffic noise on Highway 1, dogs, fire station alarms, occasional alarms from the SMR
EIR1-4	Monadella Street	49.3	45	43.6	51.5	Traffic noise from Highway 1, birds, wind in trees
EIR2-A1	Hwy 1 and Via Concha	54.5	-	45.6	-	-
EIR2-A2	Near Nathan Way	51.0	-	40.0	-	-
EIR2-A3	Olivera Avenue	49.5	-	40.4	-	-
EIR2-A4	Gasoline Alley	56.1	-	41.7	-	-
EIR2-LT1	Mesa Vu Storage	59.7	56.3	49.3	64.8	Traffic on highway
EIR2-LT2	Olivera and Los Reyes	43.2	41.0	40.2	55.2	Traffic on highway and light industrial
EIR2-LT3	1918 Eucalyptus Road	48.7	46.5	38.6	54.1	Traffic on highway
1	931 Sheridan Road	45.5	-	-	-	Nearby industrial activities/backup beepers, vehicles on area roadways
2	Arriba Place east of Sheridan Road	51.4	-	-	-	Nearby industrial activities/backup beepers, vehicles on area roadways
3	Winterhaven Way south of SR 1	49.5	-	-	-	Vehicle traffic on area roadways
4	Alley Oop Way at Gasoline Alley	48.2	-	-	-	Nearby industrial activities/backup beepers, vehicles on area roadways
5	North of SR 1 near Calendar Loop Path	53.2	-	-	-	Vehicle traffic on area roadways
6	SR 1 east of Sheridan Road	70.7	-	-	-	Vehicle traffic on area roadways
7	Willow Road, east of SR 1	68.4	-	-	-	Vehicle traffic on area roadways
8	Olivera Avenue, west of SR 1	47.2	-	-	-	Vehicle traffic on area roadways
9	Dawn Road, east of SR 1	51.8	-	-	-	Vehicle traffic on area roadways
LT1	Phillips 66 Refinery, Northern Plant Boundary	50	-	54	-	Plant operations.

Table 4.12.5 Historical Ambient Noise Levels Near the Project Site

#	Location	Daytime Leq (dBA)	Evening Leq (dBA)	Nighttime Leq (dBA)	CNEL (dBA)	Noise Sources
LT2	North of SR 1 near Calendar Loop Path	52	-	44	-	Vehicle traffic on area roadways
LT3	Winterhaven Way, south of SR 1	55	-	53	-	Vehicle traffic on area roadways
LT4	SR 1, east of Sheridan Road	68	-	59	-	Vehicle traffic on area roadways
LT5	Willow Road, east of Padre Lane	58	-	48	-	Vehicle traffic on area roadways

Note: Leq = Equivalent Continuous Sound Level; SR = State Route

Source: EIR1 is associated with the Throughput EIR (County 2012). In-field measurements EIR1-1 through EIR1-4 taken June 21, 2011, by MRS with a Quest 1900 noise meter. Measurements EIR2-A1-4 and EIR2 LT1-3 as associated with the Rail Spur EIR taken January 27–29, 2012, by MRS and taken October 18–19, 2012, by Rail Spur Applicant. Measurements 1–9, LT1–5 are associated with the current Project Phillips 66 and taken in December 2022 by Phillips 66.

Generally, the noise levels produced by the rail movements were slightly less than those estimated by the FTA models, most likely due to the inaccuracies of the FTA model at slower speeds. In each case, the estimated train noise level from the SMR spur is more than 10 dBA below the daytime ambient noise levels at the receptors, which indicates that activity on the existing rail spur is mostly inaudible. This conclusion is supported by review of the audio recordings made at 1918 Eucalyptus Road during the Rail Spur Project EIR in which no discernable train noise could be heard.

Applicant Noise Monitoring

To document existing ambient noise levels at the Project site, the Applicant conducted short-term ambient noise measurements on the weekdays of December 5th, 7th, 8th, and 16th, and on Saturday, December 17, 2022 (see locations 1–9 in Table 4.12.5). Noise levels ranged from a high of 70.7 dBA along SR1 to a low of 45.5 dBA near Sheridan Road. Long-term noise measurement surveys were also conducted near the northern boundary of the Project site, in the general vicinity of nearby residential land uses and along State Route 1 and Willow Road (see LT1–5 in Table 4.12.5). Noise levels ranged from 50–68 dBA daytime average and a range of 44–59 dBA nighttime average. See Appendix E for the results of the noise monitoring.

4.12.2 Regulatory Setting

This subsection summarizes the federal, state, and local laws, regulations, and standards that address the noise and vibration impacts as applies to the Project.

4.12.2.1 Federal Regulations

Noise Control Act

The Noise Control Act of 1972 established a means for effective coordination of federal research and activities in noise control, established federal noise emission standards for products distributed in commerce, and provided information to the public regarding the noise emission and noise reduction characteristics of such products.

The FHWA's Office of Motor Carrier and Highway Safety implements the Interstate Motor Carrier Noise Emission Standards for Exhaust Systems from the Code of Federal Regulations (CFR) (49 CFR 325).

Federal Transit Administration Criteria

The FTA developed methodology and significance criteria to evaluate vibration impacts from surface transportation modes (i.e., passenger cars, trucks, buses, and rail) in the Transit Noise and Vibration Impact Assessment (FTA 2018). This assessment provides guidance for preparing and reviewing the noise and vibration sections of environmental documents by setting forth methods and procedures for determining the level the level of noise and vibration impacts resulting from federally funded transit projects and determining appropriate and feasible mitigation.

Federal Highway Administration

The Federal Highway Administration (FHWA) is the agency responsible for administering the federal-aid highway program in accordance with federal statutes and regulations. The FHWA developed noise regulations as required by the Federal-Aid Highway Act of 1970 (Public Law 91-605, 84 Stat. 1713). The Regulation 23 CFR 772 Procedures for Abatement of Highway Traffic Noise and Construction Noise applies to highway construction projects where a state department of transportation has requested federal funding for participation in the project. The regulation requires the highway agency to investigate traffic noise impacts in areas adjacent to federally aided highways for proposed construction of a highway on a new location or the reconstruction of an existing highway to either significantly change the horizontal or vertical alignment or increase the number of through-traffic lanes. If the highway agency identifies impacts, it must consider abatement. The highway agency must incorporate all feasible and reasonable noise abatement into the project design.

U.S. Department of Housing and Urban Development

U.S. Department of Housing and Urban Development (USHUD) guidelines for the acceptability of residential land use are included in the 24 CFR Part 51. These guidelines establish that noise exposure of 65 dBA CNEL/Ldn, or less, is acceptable and between 65 and 75 dBA CNEL/Ldn noise exposure is considered normally acceptable provided appropriate sound-reduction measures are provided. Above 75 dBA CNEL/Ldn noise exposure is generally considered unacceptable. The guidelines also identify the recommended interior noise levels of 45 dBA CNEL/Ldn. These guidelines apply only to new construction supported by USHUD grants and are not binding on local communities.

4.12.2.2 State Regulations

California Health and Safety Code, Division 28, Noise Control Act

The California Noise Control Act states that “excessive noise is a serious hazard to public health and welfare” and that “it is the policy of the state to provide an environment for all Californians free from noise that jeopardizes their health or welfare” (Health and Safety Code, Section 46000).

California Government Code Section 65302

Section 65302(f) of the California Government Code and the Guidelines for the Preparation and Content of the Noise Element of the General Plan provide requirements and guidance to local agencies in the preparation of their Noise Elements. The guidelines require that major noise sources and areas containing noise-sensitive land uses be identified and quantified by preparing generalized noise exposure contours for current and projected conditions. Contours may be prepared in terms of either the CNEL or the Ldn, which are descriptors of total noise exposure at a given location for an annual average day. The CNEL and Ldn are generally considered to be equivalent descriptors of the community noise environment within plus or minus 1 dB.

4.12.2.3 Local Regulations

The applicable noise standards governing the Project area are the criteria in the County’s Noise Element of the General Plan, which covers noise exposure from major sources in the County including roadways, railways, airports, and stationary sources, and the criteria in the County’s Municipal Code, covering stationary noise sources such as loading docks, parking lots, and ventilation equipment.

The County’s Noise Element provides a policy framework for addressing potential noise impacts in the planning process. The Noise Element is directed at minimizing future noise conflicts, whereas a noise ordinance focuses on resolving existing noise conflicts and implementing the Noise Element policies in new development. The Noise Element includes maps showing the extent of noise exposure from the major noise sources in the County (roadways, railways, airports, and stationary sources), along with the goals, policies, and implementation program adopted by the County to reduce future noise impacts. The goals of the Noise Element, compiled under the mandate of Section 65302(f) of the California Government Code and guidelines prepared by the California Department of Health Services, are to: 1) ensure that all areas of the county are free from excessive noise and that appropriate maximum levels are adopted for residential, commercial, and industrial areas; 2) to reduce new noise sources to the maximum extent possible; 3) to reduce, to the maximum extent possible, the impact of noise within the County; and 4) to ensure that land uses are compatible with the related noise characteristics of those uses.

Among the most significant policies of the Noise Element are numerical noise standards that limit noise exposure within noise-sensitive land uses and performance standards for new commercial and industrial uses that might adversely impact noise-sensitive land uses. When the potential for adverse noise impacts is identified, mitigation is required to carry out the specific recommendations of an expert in acoustics or, under some circumstances, by implementing standard noise mitigation packages. When mitigation is required, highest priority is given to avoiding or reducing noise impacts through site planning and project design, and lowest priority

4.12 Noise

is given to structural mitigation measures, such as construction of sound walls and acoustical treatment of buildings.

The County has identified the following noise-sensitive land uses:

- Residential development, except temporary dwellings;
- Schools—preschool to secondary, colleges and universities, specialized education and training;
- Health care services (hospitals);
- Nursing and personal care;
- Churches;
- Public assembly and entertainment;
- Libraries and museums;
- Hotels and motels;
- Bed and breakfast facilities;
- Outdoor sports and recreation; and
- Offices.

For residential land uses, the Noise Element recommends an exterior noise standard of 60 dBA CNEL and an interior noise standard of 45 dBA CNEL. Table 4.12.6 lists the County’s maximum exterior noise levels for stationary noise sources. Table 4.12.7 lists the County’s maximum allowable noise exposure for noise from transportation noise sources.

Table 4.12.6 Noise Element Maximum Allowable Noise Exposure – Stationary Sources

Level	Daytime (7:00 a.m.–10:00 p.m.)	Nighttime (10:00 p.m.–7:00 a.m.)
Hourly Leq	50	45
Maximum Level, Lmax	70	65
Maximum Level – Impulsive Noise, Lmax	65	60

Notes: As determined at the property line of the receiving land use. When determining the effectiveness of noise mitigation measures, the standards may be applied on the receptor side of the noise barrier or other property line noise mitigation measures. Nighttime applies only where the receiving land use operates or is occupied during nighttime hours.

Source: County 1992

If the baseline noise level during the day at some noise-sensitive locations exceeds the thresholds, as per Title 23, Section 23.06.044(b), "the applicable standard shall be adjusted so as to equal the ambient noise level plus one dB," which equates to an allowable increase of one dBA. When the receiving noise-sensitive land use is outdoor sports and recreation, the noise level standards shall be increased by 10 dB.

Table 4.12.7 Noise Element Maximum Allowable Noise Exposure – Transportation Sources

Land Use	Outdoor Areas Ldn/CNEL, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq dB
Residential (except temporary dwellings and residential accessory uses)	60	45	--
Bed and breakfast facilities, hotels, and motels	60	45	--
Hospitals, nursing, and personal care	60	45	--

Table 4.12.7 Noise Element Maximum Allowable Noise Exposure – Transportation Sources

Land Use	Outdoor Areas Ldn/CNEL, dB	Interior Spaces	
		Ldn/CNEL, dB	Leq dB
Public assembly and entertainment (except meeting halls)	--	--	35
Offices	60	--	45
Churches, meeting halls	--	--	45
Schools – preschool to secondary, college and university, specialized education and training, libraries, and museums	--	--	45
Outdoor sports and recreation	70	--	--

Notes: CNEL = community noise equivalent level; dB = decibel; dBA = A-weighted decibel; Ldn = day-night average level; Leq = equivalent continuous sound level

Source: County 1992

Chapter 6, Section 40 of Title 23 (23.06.040) of the County Municipal Code establishes standards for acceptable exterior and interior noise levels and describes how noise should be measured. The Code states that these standards are intended to protect persons from excessive noise levels, which are detrimental to the public health, welfare, and safety. Excessive noise levels are also contrary to the public interest because they can interfere with sleep, communication, relaxation, and full enjoyment of one's property; contribute to hearing impairment and a wide range of adverse physiological stress conditions; and adversely affect the value of real property. The interior and exterior noise standards established in the County's Land Use Ordinance are consistent with the noise exposure standards in the County's General Plan Noise Element.

The County Code exempts construction activities from the noise standards between the hours of 7:00 a.m. and 9:00 p.m., Monday through Friday, and between 8:00 a.m. and 5:00 p.m. Saturdays and Sundays. Construction conducted outside of these hours should comply with the respective standards described above.

4.12.3 Thresholds of Significance

The significance of potential noise and vibration impacts is based on thresholds identified within the County's Initial Study Checklist, which was developed in accordance with Appendix G of the State California Environmental Quality Act (CEQA) Guidelines. According to the County's Initial Study Checklist, noise and vibration impacts would be considered significant if the Project would:

- a. Generation of a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- b. Generation of excessive groundborne vibration or groundborne noise levels; or
- c. For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels.

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For exceedance to the noise element, see the designated noise levels discussed above under 4.12.2.3.

The County has not adopted noise standards that apply to construction activities such as the demolition and remediation activities of the Project. Instead, construction activities are exempted from the County noise standards if they occur during certain hours of the day. The first significance criteria listed above do not assign a threshold of acceptability from increased levels of noise. The following thresholds were utilized for the Rail Spur Project EIR (associated with the same Project site) for new development, not construction:

- Any increase above background (ambient) noise that is less than 3 dBA is less than significant;
- When a project (plus the background noise) results in an increase in noise between 3 and 10 dBA as measured from the nearest sensitive receptor, it is considered adverse.; and
- When a project (plus the background noise) results in an increase in noise greater than 10 dBA, as measured from the nearest sensitive receptor that is a significant impact warranting mitigation.

A project-related operational noise increase of between 3 dBA and 10 dBA is considered adverse, but could be either significant or insignificant, depending upon the circumstances of a particular case. Factors considered when determining the significance of an adverse impact as defined above include, but are not necessarily limited to:

- The resulting noise level;
- The duration and frequency of the noise;
- The number of people affected;
- The land use designation of the affected receptor sites; and
- The land use designations of adjacent parcels and adjacent noise sources such as roads.

The criteria described above are based on hourly Leq noise levels and for operations. The intent is to provide a relatively simple, easily understood description of the noise environment that does not require overly complex analysis to measure or enforce.

Leq correlates well with subjective reaction to many environmental noise sources and has been widely adopted in environmental noise impact studies. Because it is an energy average, Leq allows complex, time-varying noise environments to be described with a single figure, capturing contributions from noise sources that vary rapidly with time as well as those with a steady-state noise characteristic.

Noise due to construction activities, as with this Project, is generally considered to be less than significant when it falls under the hours and definition specified in the County's Noise Ordinance. However, for construction impacts which occur over a long duration that could affect the same receptors during that period and only during the daytime hours (in compliance with the exemption requirements of County Code), an increase over 10 dBA Leq could be in conflict with the underlying purpose of the County Code, which is to establish standards to:

[P]rotect persons from excessive noise levels, which are detrimental to the public health, welfare, and safety” and that could “interfere with sleep, communication, relaxation, and full enjoyment of one’s property; contribute to hearing impairment and a wide range of adverse physiological stress conditions; and adversely affect the value of real property. [23.06.040]

These long term construction activities could be “potentially adverse” and produce “excessive noise levels, which are detrimental to the public health”. The 10 dBA increase level is a level that, with long-term activities that could affect the same receptors during that period, could cause a degree of excessive noise levels in conflict with the underlying purpose of the County Code and therefore potentially generate a significant impact.

For threshold b), vibration impacts would be considered significant if the vibration levels generated by the Project equipment exceeded a velocity of 0.01 inches per second at the property line of a neighboring use. This value corresponds with the perceptible level, and other jurisdictions (Los Angeles County, for example) define this level as a threshold for vibration impacts.

For threshold c), as the area is not located within an airport land use plan designation, this impact is not discussed further.

4.12.4 Impact Assessment Methodology

Noise levels associated with equipment utilized as part of the Project are estimated based on equipment manufacturers’ information and available published data. This information is used in a SoundPLAN[®] model analysis which estimates the worst-case noise levels associated with the Project. This study was conducted by the Applicant and peer reviewed by the EIR consultant. Historical noise levels in the area were gathered both by the Applicant and by the EIR consultant as part of past studies and these are used to estimate the background noise levels and the associated increases in noise that might be expected by the Project. Generally, as the demolition is considered construction, daytime noise levels would be excluded from the municipal code requirements; however, as the Project would have a long duration, potential disturbances to nearby residences are also addressed.

4.12.5 Project-Specific Impacts and Mitigation Measures

This section discusses the approach for estimating the potential noise impacts, as well as a discussion of the modeling results and the potential impacts and cumulative impacts. Alternatives are discussed in Chapter 5.0.

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Impact #	Impact Description	Residual Impact
NOI.1	Threshold a): Would the Project generate a substantial temporary or permanent increase in ambient noise levels in the vicinity of the project in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	Class II

The proposed project would generate a short-term, intermittent increase in ambient noise during the construction of the Project from vehicle and construction equipment. To predict the noise levels generated by planned demolition activities at the site, noise models were developed with the use of three-dimensional computer noise modeling software. All models in this report were developed with SoundPLAN[®] 8.0 software using the ISO 9613-2 standard. Noise levels are predicted based on the locations, noise levels and frequency spectra of the noise sources, and the geometry and reflective properties of the local terrain, buildings, and barriers. To ensure a conservative assessment, the ISO 9613-2 standard assumes light to moderate winds are blowing from the source to receivers.

Noise levels associated with on-site demolition/remediation were calculated based on representative offroad equipment identified for aboveground and belowground activities. A detailed list of equipment is included in Table 4.12.8. Representative noise levels associated with off-road equipment are summarized in Table 4.12.9. To be conservative, all equipment was assumed to be operating simultaneously.

Based on FHWA construction equipment noise model noise levels for individual equipment and the FHWA RCNM, off-road equipment operations were estimated to generate a combined noise levels of 74 dBA Leq at 200 feet for belowground/remediation activities and 71.9 dBA Leq at 200 feet for aboveground activities (FHWA 2006c).

Maximum instantaneous noise levels associated with a single piece of equipment would be approximately 78 dBA Lmax at 200 feet used for belowground/remediation activities and 68.6 dBA Lmax at 200 feet for aboveground activities (FHWA 2006a).

Use of the concrete crusher and asphalt pulverizer were assumed to generate noise levels of approximately 86.5 Leq and 83.6 dBA Lmax at 50 feet, based on measurements obtained from similar equipment (Ambient 2023).

Table 4.12.8 Anticipated Construction Equipment Usage

Aboveground Phase	Belowground Phase	Crushing Equipment
2 skid steer loaders 2 aerial lifts 1 off-highway truck 2 cranes 2 generator sets	<u>Each Area (2 areas):</u> 3 excavators 1 hydraulic breaking ram 1 skid steer loader 1 off-highway truck 1 generator set 1 auger drill rig	Rock crusher Pulverizer

Source: Applicant noise report (Ambient 2023)

Table 4.12.9 Noise Levels for Off-Road Equipment

Equipment	Distance	Leq
Aerial Lift	200	55.7
Auger Drill Rig	200	65.3
Concrete Crusher & Asphalt Pulverizer	50	75.9
Cranes	200	60.6
Excavators	200	64.7
Front End Loader	200	63.1
Generator Set	200	65.6
Hydraulic Braker Ram	200	68.0
Off-Highway Trucks	200	60.4
Skid Steer Loader	200	63.1

Source: Applicant noise report (Ambient 2023), FHWA RCNM 1.1

Aboveground demolition is anticipated to take approximately 8 months, with soil remediation activities beginning as areas are cleared and tested. The bulk of the remediation work would be completed within the first three years; however, it would likely continue at a reduced level for up to 10 years, depending on site conditions and work plans. Based on information provided for the Project by the Applicant, some activities would be anticipated to occur simultaneously. Predicted worst-case noise levels at the nearest residential land uses were determined to occur during periods associated with the belowground demolition of the tanks, aboveground demolition at the SMR, and operation of the asphalt pulverizer, and rock crusher, potentially creating worst-case noise levels during construction. Combined noise levels associated with these activities, predicted noise contours, and predicted noise levels at nearby land uses were predicted using the SoundPLAN[®] computer program.

Predicted noise levels and contours associated with on-site demolition/remediation activities are summarized in Table 4.12.10. Predicted average-hourly (dBA Leq) and instantaneous (dBA Lmax) noise contours are depicted in Figures 4.12-3 and 4.12-4.

Table 4.12.10 Modeled Noise Levels at Nearby Receptors

Receiver	Distance to Closest Project Activity, feet	Modeled Noise Level dBA Leq	Representative Baseline Location	Increase Over Baseline, Leq	Potentially Adverse?
R-1	2,450	61.4	LT2, 5, EIR1-4, EIR2-LT1	12.4	Yes
R-2	2,220	62.4	LT2, 5, EIR1-4, EIR2-LT1	13.3	Yes
R-3	1,780	64.8	LT3, 3, EIR1-3	15.4	Yes
R-4	1,240	66.1	EIR2-A4, 4, 1	20.6	Yes
R-5	1,710	59.7	LT3, 3, EIR1-3	10.6	Yes
R-6	6,150	52.5	EIR2-A2, 9	3.8	No
R-7	7,550	50.3	EIR2-LT3	3.9	No
R-8	9,050	48.2	EIR2-A1	0.9	No

Source: Applicant noise report (Ambient 2023), baseline noise level based on the lowest daytime Leq.

As depicted in Table 4.12.10, predicted exterior demolition/remediation noise levels at the property line of nearest residential land use (Receiver R-4 located at a residence on an industrial zoned site, adjacent to auto wrecking yards) would be 66.1 dBA Leq. Predicted noise levels at

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other nearby residences would range from 48.0 to 64.6 dBA Leq. Based on the conservative assumption used for the noise modeling, noise levels could increase by 0.6 dBA to as much as 20.6 dBA Leq over the baseline noise levels during the daytime. Increases over 10 dBA Leq could occur at receptors R-1 through R-5. However, it is important to note that Receivers R1 and R2 are located adjacent to State Route 1 and receiver R3 is located adjacent to commercial development and State Route 1. Receivers R-6 through R-8 are far enough away from activities so noise level increase would be below 10 dBA Leq. Furthermore, under the Project, the demolition of aboveground structures would likely have less overlap over a shorter duration with belowground work, as the surface hardscape and belowground structures would only be removed as necessary for remediation.

Materials would be moved by both off-site truck and rail traffic. As discussed in Chapter 2.0, Project Description, truck traffic would be limited during the Project to less than the average levels during the operational, historical period of the Project. In addition, although the annual number of trains would increase, train traffic would average less than one train per day. Therefore, daily and peak level noise from trains would be the same as during the historical operations of the SMR. Therefore, impacts from off-site traffic, both truck and trains, would not increase over the historical peak period baseline levels and impacts from off-site vehicle movement would be less than significant.

The Noise Element levels are shown in Section 4.12.2.3 and indicate that acceptable noise limits range from 50–60 dBA Leq for stationary and transportation sources impacts at residential receptors. However, the County Code exempts construction activities from the noise standards during the day. If construction were to occur outside of these allowable hours, it could produce a significant impact. In addition, as shown in Figure 4.12-4, the noise levels are below the Lmax maximum instantaneous noise level (see Table 4.12.6).

While the demolition and remediation activities are planned to comply with the municipal code construction time limits and therefore are exempt, the duration of the remediation activities and the potentially large increases in noise levels at some receptors (> 20 dBA Leq increases) could be detrimental and interfere with residential properties over the long term.

Figure 4.12-3 Modeled Noise Level Contours: Leq



Note: Noise levels and contours were calculated using the SoundPLAN® computer program assuming receiver would be placed at a height of approximately five feet above ground level. Locations are approximate.
 Source: Applicant noise report (Ambient 2023)

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Figure 4.12-4 Modeled Noise Level Contours: Lmax



Note: Lmax for single loudest piece of equipment. Noise levels and contours were calculated using the SoundPLAN[®] computer program assuming receiver would be placed at a height of approximately five feet above ground level. Locations are approximate.

Source: Applicant noise report (Ambient 2023)

Mitigation that could be effective range from equipment configurations, policies and construction phasing and barrier and equipment shrouds. Caltrans (Caltrans 2013) indicates that the following measures can be used to reduce noise impacts on nearby receptors:

- Reroute haul routes away from residences;
- Require modern equipment;
- Plan noisiest operations for times of day when people are less sensitive to noise;
- Plan operations to minimize the use of backup warning devices;
- Set backup warning devices to lowest level without jeopardizing safety;
- Operate equipment at minimum power; and
- Use quieter alternate methods or equipment

Caltrans also indicates that:

Residents' tolerance toward construction noise is greatly increased if they are informed that the noise is temporary, that they have a telephone number to call for

more information and to report specific noise concern, and that every effort will be made to address those concerns.

Studies conducted related to the Central Artery Project in Boston (Institute of Noise Control Engineering 2000) indicate that:

The greatest single source of noise complaints results from the use of loud backup alarms on vehicles working at night. The solution has involved requiring all project-related vehicles to be equipped with either manually-adjustable or ambient-sensitive backup alarms.

FHWA (FHWA 2006b) indicates that backup alarms account for the largest portion (41 percent) of problems related to construction noise issues, followed by slamming tailgates (27 percent) and hoe rams (24 percent).

Installing shrouds and barriers around relatively stationary equipment, such as generators and crushers/pulverizers, can also be a very effective method of reducing noise levels, achieving reductions of 15–20 dBA. The generators produce a relatively large portion of the sound energy on site for both aboveground and belowground demolition. Effective methods to reduce this equipment noise would reduce the overall noise impacts to residences. These methods are less effective when equipment moves around a lot as the barriers are not able to prevent noise propagation under many circumstances.

While the concrete crusher and asphalt pulverizer and the hydraulic braker ram are indicated in the modeling to contribute only minimally to the noise levels, historical information (such as pile drivers in the FHWA RCNM (FHWA 2006c) database and Hy-Ram (Hy-Ram 2023) manufactures information) indicate that this equipment could have a wide range of noise levels. Ensuring noise monitoring and installation of noise shrouds and barriers around this equipment if disturbance is identified would also ensure that impacts are minimized.

Therefore, control of backup alarms, communication with nearby residences and methods to reduce stationary equipment noise if there are issues can effectively reduce the potential impacts of construction activities. Measures are listed below.

Mitigation Measures

NOI.1-1 *Nighttime Activities Limits:* *Noise activities during the nighttime shall be prohibited in order to reduce the potential for impacts to surrounding residences and other sensitive receptors. County Land Use Ordinance 23.06.040 construction time limits (Noise sources associated with construction shall not take place before 7:00 a.m. or after 9:00 p.m. any day except Saturday or Sunday, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday). This requirement shall be incorporated into the NOI.1-2 Construction Noise Control Management Plan, reproduced on plans submitted for permits, and strictly enforced throughout construction.*

Submittal Timing: *Prior to County permit issuance. **Approval Trigger:** Issuance of County permit. **Responsible Party:** The Applicant or designee. **What is required:** Construction Noise Control Management Plan, and description of requirements on all*

construction plans. **To whom it is submitted and approved by:** County Department of Planning and Building.

NOI.1-2 **Construction Noise Control Measures:** *The Applicant shall provide the following construction noise control performance, implementation, management, and reporting measures, described in a Construction Noise Control Management Plan:*

1. *All noise-producing construction equipment and vehicles using internal combustion engines shall be equipped with critical grade mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition and appropriate for the equipment that meet or exceed original factory specifications. Mobile or fixed “package” equipment (e.g., arc-welder, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment;*
2. *All heavy-duty stationary construction equipment (including generators and crushers/pulverizers) shall be placed so that emitted noise is directed away from the nearest sensitive receptors;*
3. *Smart back-up alarms shall be used with mobile construction equipment that automatically adjust the sound level of the alarm in response to ambient noise levels or back-up alarms shall be disabled and replaced with human spotters to ensure safety when mobile construction equipment is moving in the reverse direction;*
4. *Limit unnecessary idling of construction equipment;*
5. *Communication or music systems shall not be audible at any adjacent receptor;*
6. *Inform residents and other noise sensitive receptors within 3,000 feet of Project work areas of anticipated noise disturbances two to four weeks prior to construction, including a contact telephone number to register noise complaints. The Project Applicant shall ensure that a noise liaison is assigned to respond to all public construction noise complaints in a timely manner, and either a) the telephone number is staffed by the noise liaison during construction hours; or b) the phone number is connected to an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended;*
7. *Noise complaints shall be forwarded to the County of San Luis Obispo Planning and Building Department within 24 hours, along with the Owner/Applicant’s initial response to the complaint;*
8. *The noise complaint telephone number shall be posted in a manner visible to passersby and provided individually to potentially affected residences as part of the notification efforts;*
9. *Should a complaint be received and verified, as determined by the County, the Applicant shall do the following to reduce noise:*
 - a. *Schedule construction activities to avoid operating construction spreads in the same location or the same distance from the same receptor*

simultaneously, with a minimum separation distance of 1,000 feet between spreads (relative to the same receptor);

- b. Install barriers or shrouds between the noisy construction equipment (generators and crushers/pulverizers) and the closest noise receptor; and*
- c. Conduct noise monitoring at the construction site and along the site boundary and at the closest receptor to ensure noise levels attributed to the Project do not exceed a 10 dBA Leq increase over background levels at the closest residence.*

10. The Plan shall include a compliance reporting schedule and outline the information to be reported to the County, and include a sample report form.

Submittal Timing: Prior to County permit issuance. ***Approval Trigger:*** Issuance of County permit. ***Responsible Party:*** The Applicant or designee. ***What is required:*** Construction Noise Control Management Plan and description of requirements on all construction plans. ***To whom it is submitted and approved by:*** County Department of Planning and Building.

Residual Impacts

The potential impacts of construction noise and the effect on residences can be reduced by effective measures such as limits on back-up beepers, communication, equipment modifications and effective noise management practices. The goal of the program is to ensure good communication with residents and to address complaints should noise levels attributed to the Project exceed a 10 dBA Leq increase over baseline. Prohibiting activities during the night would also reduce the potential for impacts to area residences and ensure that construction activities are limited to those hours allowing for normal exemption of construction noise activities. With these measures, the potential for excessive noise levels would be substantially reduced and therefore impacts would be **less than significant with mitigation (Class II)**.

The long-term noise levels, after the construction phases of the Project are completed, would result in reduced, beneficial noise levels in the area as the SMR would no longer be operating.

Impact #	Impact Description	Residual Impact
NOI.2	Threshold b): Would the Project generate excessive groundborne vibration or groundborne noise levels?	Class III

Noise levels that persons may be exposed to are discussed in impact NOI.1 above.

For vibrations, based on FTA vibration levels with a range of construction equipment (see Section 4.12.1.3), and due to the distances to the nearest receptors, the vibration levels from a worst-case construction/demolition activity of the operation of a pile driver indicates vibration would generate a peak particle velocity (PPV) of 0.01 inches/second at the closest receptor, which would be barely perceptible to humans and would not cause any damage to structures (see Appendix E). Impacts from potential vibration would therefore be **less than significant (Class III)**.

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Impact #	Impact Description	Residual Impact
NOI.3	Threshold c): For a project located within the vicinity of a private airstrip or an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	Class III

The Project site is not located within the vicinity of a private airstrip or an airport land use plan, nor is the Project located within two miles of a public, or public use, airport. The Oceano Airport is located approximately four miles north of the Project site. Therefore, the Project would not result in any impacts associated with excessive noise within an airport land use plan or within two miles of a public, or public use, airport. Potential impacts would be **less than significant (Class III)**.

4.12.6 Mitigation Measure Impacts to Other Issue Areas

Mitigation measures would be targeted to reduce impacts from equipment operations through noise management practices and increased muffler efficiency. None of these measures would produce impacts in other issue areas.

4.12.7 Cumulative Impacts

Cumulative projects are discussed in Chapter 3.0, Cumulative Study Area. Cumulative projects are discussed in each of the categories below.

Ongoing SMR projects, including the Slop Oil Spill and the Northern Inactive Waste Site (NIWS) remediation projects and the remaining facilities off-site projects (Summit Pump Station and Santa Maria Pump Station), would not involve noise sources and therefore, in combination with the Project, would not have a cumulative impact.

Other projects in the area, such as the Arroyo Grande Oil Field, Caballero Battery project, Monarch Dunes or the Dana Reserve development projects, or the Santa Barbara County projects, would entail the use of equipment and transportation and could contribute to increases in noise levels use in their respective project areas. However, as the Project noise levels would not overlap with the noise levels from other projects as they are located a substantial distance away, a cumulative impact would not occur.

Roadway projects would not entail the generation of large amounts of noise levels that could affect the same receptors as the Project and would therefore not produce cumulative impacts.

4.12.8 References

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4.13 Public Services, Utilities and Service Systems

This section describes the potential impacts of the Project related to an increase in demand on public service facilities and utilities/service systems, including impacts on fire protection services, police protection services, schools, parks, water supply, wastewater treatment facilities, and solid waste facilities. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition and remediation of the site followed by soil stabilization or revegetation of disturbed areas and restoration of hardscapes, with some minor long-term operations associated with remediation.

4.13.1 Environmental Setting

4.13.1.1 Public Services

Fire Protection

Existing Fire Protection Services

Under the laws of the State of California, only the state and incorporated cities are obligated to provide fire protection services. The state provides wildland and watershed fire protection within State Responsibility Areas (SRAs); it does not provide structure protection, rescue and emergency service, or hazardous materials response. Counties provide fire services at their discretion and service levels vary from county to county. The County of San Luis Obispo (County) chose to protect residents and property within its jurisdiction by creating County Fire in partnership with the California Department of Forestry and Fire Protection (CAL FIRE). The partnering and consolidation between County Fire and CAL FIRE are documented through contractual agreements that direct CAL FIRE/County Fire to provide fire protection and emergency response services and shared funding for the provision of such services.

Within the rural portion of Arroyo Grande, fire protection and emergency medical services are provided by CAL FIRE/County Fire Nipomo Station 20 (Station 20) and CAL FIRE/County Fire Mesa Station 22 (Station 22). Station 20 is located at 450 Pioneer Avenue, east of U.S. Highway 101 in the unincorporated community of Nipomo, approximately six miles east of the Project area. Station 20 is one of the busiest fire stations in the County and serves a large and varied response area, which has experienced an increase in growth over the past five years (CAL FIRE 2023a). Station 22 is located at 2391 Willow Road, south of State Route (SR) 1 in unincorporated Arroyo Grande, approximately 0.4 mile northeast of the Project area. Station 22 has experienced a large increase in calls for service over the past three years due to substantial development in the Nipomo Mesa area (CAL FIRE 2023b). Table 4.13.1 identifies current conditions of CAL FIRE/County Fire Stations 20 and 22, including staffing, equipment, and response times.

4.13 Public Services, Utilities and Service Systems

Table 4.13.1 Existing CAL FIRE Facilities

CAL FIRE/County Fire Station	Staff	Equipment	Travel Time to the Project Area
Station 20	<ul style="list-style-type: none"> • 1 Fire Captain • 1 fire apparatus engineer • 1–2 licensed paramedics • 1 Company Officer/Operator and 2–3 firefighters¹ • Battalion Chief 3412 	<ul style="list-style-type: none"> • 1 State Type III wildland fire engine • 1 County Type I fire engine • 1 Type III rescue engine • 1 medic engine • 1 Engine 3467, a Type III 4×4 wildland fire apparatus¹ 	10–15 minutes
Station 22	<ul style="list-style-type: none"> • 1 Fire Captain • 1 Fire Apparatus Engineer • 1–2 firefighters who are also licensed paramedics² • 1 licensed paramedic 	<ul style="list-style-type: none"> • 1 Medic Engine 22 • 1 Medic Squad 22 	0–5 minutes

Notes:

1. During the declared fire season, Station 20 houses Engine 3467, a Type III 4×4 wildland fire apparatus. Engine 3467 responds to many of the same calls as Medic Engine 20, as well as most vegetation fires in southern County and northern Santa Barbara County.
2. This allows Advanced Life Support (ALS) to begin as soon as fire crews arrive, resulting in a high level of service and higher rates of survival.

Source: CAL FIRE 2023a, 2023b

According to the National Fire Protection Association (NFPA) Standard 1710, the goal response time for an emergency call for fire services is seven minutes or less. As shown in Table 4.13.1, response time to the Project area from Station 20 is 10 to 15 minutes and the response time from Station 22 is zero to five minutes.

Police Protection

Existing Police Protection Services

The County Sheriff's Office provides police protection services throughout the unincorporated County. There are three stations that serve the County: the North Station, located in Templeton, approximately 36 miles north of Arroyo Grande; the South Station, located in Oceano, approximately two miles northwest of Arroyo Grande; and the Coast Station, located in Los Osos, approximately 23 miles northwest of Arroyo Grande. The Dispatch Center is the primary public safety contact and is responsible for all 911 calls in the county and the cities of Arroyo Grande and Morro Bay. The County Sheriff's Office is staffed 24 hours a day, 365 days a year. In 2022 the Sheriff's Dispatch Center received 133,768 calls for service or law enforcement, averaging 11,000 calls per month (County Sheriff's Office 2022a).

The rural portion of Arroyo Grande is served by the South Station, which also serves the unincorporated communities of Nipomo, Oceano, Halcyon, Los Berros, Huasna, and New Cuyama. As of 2020, this service population was approximately 40,000 people (County Sheriff's Office 2020). According to the County Sheriff's Office 2022 Annual Report, the South Station

patrol staff responded to over 22,887 calls for service. Reported criminal activity ranged from theft and property crimes to assault. Typical calls to the South Station include mail theft, catalytic converter theft, and identity theft (County Sheriff’s Office 2022a).

Response times from the South Station are generally poor because of the large service area, limited staffing, and traffic conditions. The County Sheriff’s Office aims to provide one deputy per 1,000 people in order to adequately respond to calls for service throughout the community (County Sheriff’s Office 2022b). There are 24 deputies serving the South Station service area, which has a population of approximately 40,000 people (County Sheriff’s Office 2020). Therefore, there are currently 0.6 deputies per 1,000 people in the South Station service area. In order to provide one deputy per every 1,000 residents, the South Station would need to employ approximately 40 deputies.

Schools

Existing Public Schools

The Project area is within the Lucia Mar Unified School District (LMUSD), which is the largest school district in the County, covering approximately 550 square miles and serving the communities of Arroyo Grande, Grover Beach, Nipomo, Oceano, Pismo Beach, and Shell Beach. The LMUSD is governed by a seven-member Board of Education and consists of 11 elementary schools, three middle schools, three comprehensive high schools, one continuation high school, one independent student study school, and one adult education program. There are more than 10,000 students within the LMUSD (LMUSD 2023). In the past 10 years, general enrollment trends of the LMUSD show a steady increase in elementary school enrollment and a decrease in middle school and high school enrollment (County 2019).

Parks

Existing Park Facilities

The County provides several different recreational opportunities to residents within the incorporated and unincorporated areas of the County. The County Parks and Recreation Department (County Parks) recognizes and provides different types of parks within the County, including mini, linear, neighborhood, community, and regional parks. Table 4.13.2 summarizes existing parks in the County. A discussion of other recreational opportunities within the County is included in Section 4.14, Recreation and Coastal Access.

Table 4.13.2 Existing County Parks

Park	Agency	Location	Distance from Project Area	Park Acres	Natural Area Acres
<i>Regional Parks (Urban)</i>					
Biddle Park	County Parks	Arroyo Grande	10 miles northeast	27	20
Duveneck Park (undeveloped)	--	Templeton	--	80	0
El Chorro Regional Park	County Parks	San Luis Obispo	21.5 miles northwest	40	450
Heilmann Regional Park	County Parks	Atascadero	30 miles north	102	0

4.13 Public Services, Utilities and Service Systems

Table 4.13.2 Existing County Parks

Park	Agency	Location	Distance from Project Area	Park Acres	Natural Area Acres
Coastal Dunes RV Park & Campground	County Parks	Oceano	0.8 mile northwest	5	0
Total Regional Parks (Urban)				254	470
Regional Parks (Rural)					
Lopez Lake Recreation Area	County Parks	Arroyo Grande	12.6 miles northeast	200	4,076
Santa Margarita Lake Park	County Parks	Santa Margarita	20 miles northeast	21	7,101
Total Regional Parks (Rural)				221	11,177
Mini, Neighborhood, and Community Parks					
Avila Park/Plaza	County Parks	Avila	12.75 miles northwest	2.5	0
Cuesta Park	County Parks	San Luis Obispo	17.4 miles northwest	5	0
C.W. Clarke Park	County Parks	Shandon	44 miles northeast	11.5	0
Hardie Park	County Parks	Cayucos	33 miles northwest	4	0
Lampton Cliffs Park	County Parks	Cambria	44.45 miles northwest	2.2	0
Los Osos Community Park	County Parks	Los Osos	23 miles northwest	6.2	0
Norma Rose Park (undeveloped)	--	Cayucos	--	1.5	0
Nipomo Community Park	County Parks	Nipomo	5 miles southeast	74	80
Oceano Memorial Park	County Parks	Oceano	4.6 miles northwest	11.8	0
Paul Andrew Park	County Parks	Cayucos	32.6 miles northwest	1	0
Jack Ready Park (undeveloped)	--	Nipomo	--	30	0
San Miguel Park	County Parks	San Miguel	50 miles north	4.3	0
Santa Margarita Community Park	County Parks	Santa Margarita	24 miles north	2	0
See Canyon Park (undeveloped)	--	Avila Valley	--	8.7	0
Shamel Park	County Parks	Cambria	46.2 miles northwest	6	0
Templeton Park	County Parks	Templeton	35.4 miles north	3.5	0
Total Mini, Neighborhood, and Community Parks				174.2	80
Parkland in Unincorporated Arroyo Grande					
Biddle Park	County Parks	Arroyo Grande	10 miles northeast	27	20
Lopez Lake Recreation Area	County Parks	Arroyo Grande	12.6 miles northeast	200	4,076
Total Parkland In Unincorporated Arroyo Grande				227	4,096
Special Places (Natural Areas, Coastal Accessways, Historic Sites)					
Bishop Creek	County Parks	San Luis Obispo	--	0	104.3

Table 4.13.2 Existing County Parks

Park	Agency	Location	Distance from Project Area	Park Acres	Natural Area Acres
Cayucos Beach	County Parks	Cayucos	--	14	0
Coastal Accessways	County Parks	Coastal Area	--	7.2	0
El Moro Elfin Forest	County Parks / California State Parks	Los Osos	--	0	38.7
Monarch Grove	Morro Coast Audubon Society	Los Osos	--	0	18
Mesa Meadows	County Parks	Nipomo	--	0	20
Rios Caledonia Adobe	Friends of the Adobes	San Miguel	--	2.8	0
Total Special Places				24.1	181
Golf Courses					
Chalk Mountain Golf Course	County Parks	Atascadero	--	212	0
Dairy Creek Golf Course	County Parks	San Luis Obispo	--	224	0
Morro Bay Golf Course (California State Parks owned, County operated)	County Parks / California State Parks	Morro Bay	--	125	0
Total Golf Courses				561	0
Trails and Staging Areas (Outside Parks)					
Bob Jones Pathways	County Parks	Avila Valley	15 miles northwest	1.8	0
Cypress Ridge Trail	County Parks	Nipomo	3.8 miles northwest	1	0
Hi Mountain Trail and Staging Areas	U.S. Forest Service	Huasna	15 miles northeast	7	0
San Miguel Staging Area (Salinas River)	County Parks	San Miguel	50 miles north	2	0
Total Trails and Staging Areas				11.8	0
Total Operating Area				1,246.1	11,908

Source: County 2006

As described in the County's 2016–2018 Resource Summary Report, the County aims to provide 10 to 15 acres of regional parkland per 1,000 residents within the County. To assess the level of severity for regional parks, the total acreage of regional parks was divided by the estimated total 2018 County population, which includes cities and unincorporated areas. The total 2018 County population was estimated to be 282,544, and the total acreage of regional parks was estimated to be 11,991 acres. Based on these statistics, the County provides 42.4 acres of parkland per every 1,000 residents. Therefore, the County provides more than 10 to 15 acres of regional parkland per 1,000 persons and this resource has not been assigned a recommended level of severity (County 2019).

4.13 Public Services, Utilities and Service Systems

As described in the County's 2016–2018 Resource Summary Report, the County aims to provide two to three acres of community parkland per 1,000 residents within a community. The rural community of Arroyo Grande does not provide community parkland (County 2006).

4.13.1.2 Utilities and Service Systems

The Santa Maria Refinery (SMR) is comprised of a number of functional areas and associated structures (refer to Section 2.3.3 in the Project Description and Figure 2-3).

Water Supply

Groundwater Management

The SMR is located in the Santa Maria Groundwater Basin (SMGB). The SMGB was the subject of litigation from 1997 to 2008 (*Santa Maria Valley Water Conservation District vs. City of Santa Maria, et al. Superior Court for the County of Santa Clara Case No. 770214*). On June 30, 2005, the Stipulating Parties entered a Stipulated Judgment (Stipulation) in the case, which was approved by the Court on August 3, 2005. The Stipulation divided the SMGB into three separate management areas, including the Northern Cities Management Area (NCMA), the Nipomo Mesa Management Area (NMMA), and the Santa Maria Valley Management Area (SMVMA). The SMR is located in the NMMA.

The Stipulation contains specific provisions related to groundwater rights, development of a Monitoring Program, development of a Water Shortage Conditions and Response Plan and a Well Management Plan, the construction of the Nipomo Supplemental Water Project (NSWP) to convey Supplemental Water, and the formation of three management area technical groups to administer these provisions. The NMMA Technical Group (TG) is one of three management area committees formed to meet these provisions. Golden State Water Company (GSWC), Nipomo Community Services District (NCSD), Phillips 66 (P66), and Woodlands Mutual Water Company (Woodlands) are responsible for appointing members of the NMMA TG, together with an agricultural overlying landowner, who is also a Stipulating Party.

The Stipulation requires the preparation of a Well Management Plan (WMP) when Potentially Severe Water Shortage Conditions or Severe Water Shortage Conditions exist prior to the completion of a Supplemental Water Project. Under the Stipulation, the NMMA TG was required to develop criteria for declaring Potentially Severe Water Shortage Conditions and Severe Water Shortage Conditions. The criteria for Potentially Severe Water Shortage Conditions were required to reflect the point at which voluntary conservation measures, augmentation of supply, or other steps may be desirable or necessary to avoid further declines in water levels. The criteria for Severe Water Shortage Conditions were required to reflect the point at which the lowest historic water levels beneath the NMMA and/or conditions constituting seawater intrusion have been reached (Superior Court of California 2005). The WMP only provides actions to be taken by the NCSD, GSWC, and Woodlands, under these water shortage conditions (NMMA TG 2023).

According to the Stipulation, P66 and Overlying Owners have the right to the reasonable and beneficial use of groundwater without limitation, except in the event that the mandatory action trigger point (Severe Water Shortage Conditions) is reached. In the event of Severe Water Shortage Conditions, P66 is required to reduce its yearly groundwater use to no more than 110 percent of

the highest amount it previously used in a single year, unless it agrees in writing to use less groundwater for consideration received. Under the Stipulation, P66 was given discretion in determining how reduction of its groundwater use is achieved (Superior Court of California 2005). Therefore, the WMP has no applicability to Phillips 66 as defined in the Stipulation (NMMA TG 2023).

Historic Groundwater Production

Based on depth-to-water measurements taken by the County, NCSD, P66, Woodlands, and GSWC in April and October of 2022, a total of 3,808 acre feet (AF) of groundwater was produced from the principal production aquifers within the NMMA in CY 2022. These measured groundwater production values are reliable and are considered precise to the tens place for NCSD, GSWC, and Woodlands, and the hundreds place for P66 (NMMA TG 2023). In addition to groundwater production for NCSD, P66, Woodlands, and GSWC, golf courses, agriculture, residential, and other land uses within the NMMA produced an additional approximately 9,380 AF of groundwater, resulting in a total of approximately 13,188 AF of total groundwater production in CY 2022 (Table 4.13.3).

Table 4.13.3 Calendar Year 2022 Measured and Estimated Groundwater Production

Groundwater Users	Production (AF per year)
NCSD	748
GSWC	1,210
Woodlands (less Golf Course and Vineyard)	750
P66	1,100
Golf Course	995
<i>Subtotal</i>	<i>4,803</i>
Estimated	
Other Land Uses	1,089
Agriculture	7,296
Total NMMA Production	13,188

Source: NMMA TG 2023

Wastewater

NMMA Wastewater Treatment Facilities

There are six wastewater treatment facilities (WWTFs) located within the NMMA, including the Southland WWTF, the Blacklake WWTF, the Cypress Ridge WWTF, the Woodlands WWTF, and La Serena and Osage (Golden State Water Company). In addition, a majority of rural parcels within the NMMA are served by individual septic tanks or other alternative wastewater systems, including the SMR. According to the 15th Annual Report for the NMMA, the total wastewater discharge within the NMMA was 658 AF in CY 2022 and the total WWTF effluent to infiltration basins in the NMMA was 497 AF in CY 2022 (NMMA TG 2023).

Santa Maria Refinery Wastewater Treatment

The SMR’s existing operations are covered under Individual National Pollutant Discharge Elimination System (NPDES) Permit #CA0000051, which allows the SMR to discharge up to 0.575 million gallons per day of treated production wastewater and stormwater. Contact stormwater is precipitation runoff from areas within the tank berms and from the operating units. Process wastewater and contact stormwater are treated in the water effluent treatment (WET) plant.

Most process units and operations areas are located on concrete pads, and tanks have containment berms. Oily wastewater collects in drains within the process areas and routes through an oily-water collection system to an oil/water separator and then to the WET plant.

The WET plant consists of two surge tanks, dissolved air flotation, a trickling filter, an Orbal aeration system, and a secondary clarifier. Sludge generated by the treatment processes is recycled at the coking facility. Treated wastewater discharges through a pipeline and diffuser system to Discharge Point #001 in the Pacific Ocean. Operation of the WET plant's biological treatment process requires a consistent input of wastewater. The minimum flow required through the wastewater effluent treatment facility for the biological processes to be maintained depends on the chemical oxygen demand (COD) level of the wastewater input. The Central Coast Regional Water Quality Control Board approved the use of the facility's industrial water to supplement flows to sustain the WET plant's biological treatment process.

Sanitary septic wastewater is handled by individual on-site wastewater treatment systems (OWTS) for the structures which have restroom or kitchen facilities. No sanitary wastewater is discharged to the outfall (Discharge Point #001). The piping, tanks and leachfields of the OWTS would be removed in the underground demolition phase of the Project.

Solid Waste

Existing Landfill Facilities

There are three landfills in the County, including Cold Canyon Landfill, Chicago Grade Landfill, and Paso Robles Landfill. These facilities accept waste for disposal, recyclables, and organics. In addition to the three landfills, there are three transfer stations in the County, including Buckeye Processing, North County Recycling for C&D recycling and organics only, and Santa Maria Transfer Station.

It is assumed that the Project would require the disposal of potentially hazardous materials and contaminated soils, including asbestos-containing materials, lead-based materials, universal waste (e.g., fluorescent lamps, lamp ballasts, mercury-containing equipment, batteries, electronic waste, cathode ray tubes, and aerosol cans), used oils and dielectric fluids, and refrigerants. A detailed discussion of potential hazards and hazardous materials that may be generated by the Project is included in Section 4.9, Hazards and Hazardous Materials.

It is anticipated that solid waste generated by the Project would be disposed of at Cold Canyon Landfill, Santa Maria Regional Landfill, Santa Maria Transfer Station, and other landfills and transfer stations, including East Carbon Landfill (ECDC Environmental Landfill), SA Recycling, and Gator Crushing and Recycling (see Chapter 2.0, Project Description, Figure 2-7, for haul routes and demolition waste destinations).

Cold Canyon Sanitary Landfill

Cold Canyon Sanitary Landfill (Cold Canyon Landfill) is a modern municipal solid waste disposal facility permitted by the California Department of Resources Recycling and Recovery (CalRecycle) and is in full compliance with state and local rules and regulations regarding solid waste disposal. The Cold Canyon Landfill is located approximately 10 miles north of the Project area and provides disposal services for municipal solid waste, construction/demolition wastes, industrial waste, and special wastes with proper approval (CalRecycle 2020). The Cold Canyon

Landfill has a total permitted area of 209 acres and a disposal area of 121 acres. The total allowable capacity is 23,900,000 cubic yards, with a peak acceptance rate of 1,650 tons per day. The Cold Canyon Landfill has a remaining capacity of 13,000,000 cubic yards as of August 31, 2020, and the estimated closure date is December 31, 2040 (CalRecycle 2020).

Santa Maria Regional Landfill

Santa Maria Regional Landfill (Santa Maria Landfill) is a municipal solid waste disposal facility permitted by CalRecycle and is in full compliance with state and local rules and regulations regarding solid waste disposal. The Santa Maria Landfill is located approximately 14 miles southeast of the Project area and provides disposal services for mixed municipal solid waste, construction/demolition wastes, industrial waste, green materials, agricultural waste, and metals with proper approval (CalRecycle 2021). The Santa Maria Landfill has a total permitted area of 290.88 acres and a disposal area of 247.10 acres. The total allowable capacity is 13,998,400 cubic yards, with a peak acceptance rate of 6,006 tons per week. The Santa Maria Landfill has a remaining capacity of 13,998,400 cubic yards as of April 1, 2021, and the estimated closure date is January 2028 (CalRecycle 2021).

Santa Maria Transfer Station

Santa Maria Transfer Station is a large volume transfer and processing facility permitted by CalRecycle. The Santa Maria Transfer Station is located approximately nine miles southeast of the Project area and provides transfer and disposal services for mixed municipal and metal solid waste with proper approval. The Santa Maria Transfer Station has a total permitted area of 3.30 acres. The total allowable capacity is 500 tons per day (CalRecycle 2023).

Republic Services East Carbon Landfill (ECDC Environmental Landfill)

ECDC Environmental Landfill is the second largest provider of non-hazardous solid waste collection, transfer, disposal, recycling, and energy services in the United States. ECDC Environmental Landfill is located at 1111 West Highway 123 in East Carbon, Utah and provides disposal services construction and demolition waste, contaminated soil, dry industrial waste, sludge, and municipal solid waste with proper approval (Wastebits 2023).

SA Recycling

SA Recycling is a private metal recycling facility located at 1599 Betteravia Road in Santa Maria. SA Recycling provides recycling services for several different metals, including but not limited to, steel, copper, aluminum, tin, appliances, and cars (SA Recycling 2023).

Gator Crushing and Recycling

Gator Crushing and Recycling is a private concrete and asphalt recycling facility located at 2363 Willow Road in unincorporated Arroyo Grande. Gator Crushing and Recycling provides recycling services for concrete and asphalt materials that are not mixed with construction debris (Recycling Centers 2023).

4.13.2 Regulatory Setting

4.13.2.1 Public Services

Federal Regulations

Code of Federal Regulations

Under 29 CFR 1910.38, an employer is required to have an Emergency Action Plan that is accessible to employees within the workplace. Such plans shall include information regarding emergency reporting, evacuation and exit routes, roles, and responsibilities in the event of an emergency, accounting for employees following an emergency evacuation, and the need for performing rescue or medical duties.

National Fire Protection Association 1710

Key minimum requirements for emergency services, including staffing, response levels, and response times are identified in NFPA 1710. NFPA 1710 requirements intend to provide effective, efficient, and safe protective services to help prevent fires, reduce risk to lives and property, deal with incidents that occur, and help prepare for anticipated incidents.

State Regulations

Leroy F. Greene School Facilities Act

The Leroy F. Greene School Facilities Act of 1998 (AB 331) authorizes a state bond to provide funds for school facilities within the state in order to modernize facilities, develop new facilities, employ additional staff members, and provide hardship funding. The state provides local school districts with financial support for new school construction and modernization projects through the School Facility Program (SFP). Under the SFP, new school construction projects are funded on a 50/50 state and local matching basis. In order for the state to provide these funds, the state requires payment of school fees on all new development types (California Education Code Section 17620. This demolition Project would not be required to pay fees), typically payable at the time of building permits.

California Education Code

California Education Code Section 17620 coincides with the Leroy F. Green School Facilities Act and authorizes the governing board of any school district to levy a fee, charge, dedication, or other requirement against any construction within the boundaries of the school district, for the purpose of funding the construction or reconstruction of school facilities.

The Quimby Act

The Quimby Act (AB 1191) authorizes the legislative body of a county or city to require the dedication of land or to impose fees for park and recreational purposes as a condition of the approval of a tentative or parcel subdivision map if specified requirements are met. Existing laws require fees collected to be committed within five years after the payment of fees or issuance of building permits on half of the lots created by the subdivision, whichever occurs later. Existing law also requires fees not committed to be distributed and paid to the then-record owners of the subdivision, as specified. The Quimby Act allows fees to be collected for up to three acres of parkland per 1,000 residents to serve the needs of residents of the county.

California Government Code Section 66000

California Government Code Section 66000 allows fees to be enacted and imposed on development projects and provides local agencies with guidelines regarding imposition and enforcement of fees.

Local Regulations

California Government Code Section 65995

At the local level, California Government Code 65995 et seq. authorizes school districts to collect development impact fees to help offset the cost of new school facilities needed to serve new development. The fees are levied on a per-square-foot basis of new construction and must be supported by a Fee Justification Study that establishes the connection between the development coming into the district and the assessment of fees to pay for the cost of the facilities needed to house future students. The following three levels of impact fees may be levied for projects that result in new development:

- Level I is assessed if a Fee Justification Study documents the need for new school facilities and associated costs;
- Level II is assessed if a district makes a timely application to the State Allocation Board for new construction funding, conducts a School Facility Needs Analysis pursuant to California Government Code Section 65995.6, and satisfies at least two of the four requirements listed in California Government Code Section 65995.5(b)(3) that relate to the characteristics of current enrollment and district efforts to fund school facility construction; and
- Level III is assessed if the state bond funds are exhausted, and the district may impose a developer's fee up to 100 percent of the School Facility Program new construction project cost.

In addition, California Government Code 65995(h) specifically states that the payment of required fees for schools:

[I]s deemed to be full and complete mitigation of the impacts of any legislative or adjudicative act, or both, involving, but not limited to, the planning, use, or development of real property, or any change in governmental organization or reorganization.

County of San Luis Obispo General Plan

Safety Element

The County's Safety Element has two basic principles: to be ready for disaster, and to manage development to reduce risk. The Safety Element provides goals, policies, and programs to reduce the risk of loss due to potential natural hazards, including seismic hazards, within the County, with the purpose of providing standards for reducing the risk of exposure to hazards.

- **Policy S-1 Response.** Support the response programs that provide emergency and other services to the public when a disaster occurs. The focus of response activities is saving lives and preventing injury, and reducing immediate property damage.

4.13 Public Services, Utilities and Service Systems

- **Policy S-2 Emergency Preparedness.** Continue to improve preparedness programs that educate and organize people to respond appropriately to disasters. They include education and awareness programs for individuals, families, institutions, businesses, government agencies and other organizations.
- **Policy S-14 Facilities, Equipment and Personnel.** Ensure that adequate facilities, equipment and personnel are available to meet the demands of fire fighting in San Luis Obispo County based on the level of service set forth in the fire agency's master plan.
- **Policy S-15 Readiness and Response.** The CAL FIRE/County Fire Department will maintain and improve its ability to respond and suppress fires throughout the County.
- **Policy S-22 Readiness and Response.** Fire and law enforcement agencies will maintain and improve their ability to respond to seismic emergencies throughout the County.

Parks and Recreation Element

The County's Parks and Recreation Element, adopted in 2006, establishes goals, policies, and implementation measures for the management of existing and development of new parks and recreational facilities within the County. The intent of these goals, policies, and implementation measures is to meet existing and projected needs of residents and assure an equitable distribution of parks throughout the County. The purpose of the Parks and Recreation Element is to provide policy guidance regarding the provision of park and recreation services, document the County's existing park and recreation resources, and facilitate the evaluation of park and recreation needs including those resources that are outside of the County's management during the land use decision process.

Framework for Planning (Coastal)

The County's Framework for Planning (Coastal), Part I of the County's Land Use and Circulation Element (LUCE), provides a comprehensive overview of the County's land use policies and defines land use categories for all unincorporated areas within the County (County 2018a). The Framework for Planning (Coastal) also explains the criteria used in applying land use categories and combining designations to the land and the operation of the Resource Management System. The framework includes planning principles, policies, and implementing strategies for the management of growth within the sustainable provision and capacity of resources, public services, and facilities.

South County Coastal Area Plan

The County's Area Plans are included as Part II of the County's LUCE. The South County Coastal Area Plan refines the general land use policies of the Framework for Planning and serves as a guide for future development within the South County Coastal Planning Area (County 2018b). The South County Coastal Area Plan identifies where land use categories are applied within the planning area and establishes policies and programs for land use, circulation, public facilities, services, and resources that apply areawide, in rural areas, and/or unincorporated urban areas adjacent to cities. Chapter 5, *Resource Management*, of the South County Coastal Area Plan provides an alert process for timely identification of potential resource deficiencies and summarizes assessments of the major resources of water supply, sewage disposal, schools, and road capacity.

County of San Luis Obispo Municipal Code

California Government Code Section 66000 provides that public facilities fees may be enacted and imposed on development projects. Title 18 of the County Code authorizes the County to impose Public Facilities Fees to implement the goals and objectives of the County’s General Plan and to mitigate impacts caused by new development projects within the County. The fees are needed to finance public facilities and to assure that new development projects pay their fair share for these facilities (County 2024).

4.13.2.2 Utilities and Service Systems

Federal Regulations

Clean Water Act

The Clean Water Act (CWA) was created with the goal to restore and preserve the chemical, physical, and biological integrity of the nation’s waterways by preventing pollution from entering waterways, including wetlands, and assisting publicly owned wastewater treatment facilities to improvement of wastewater treatment. The CWA regulates the water quality of all discharges into waters of the United States including wetlands and perennial and intermittent stream channels.

Safe Drinking Water Act

The purpose of the Safe Drinking Water Act (SDWA) is to protect public health by regulating the nation’s public drinking water supply. The SDWA authorizes the United States Environmental Protection Agency (U.S. EPA) to set national health-based standards for drinking water to protect against both naturally occurring and human-made contaminants that may be found in drinking water. Potential contaminants include improperly disposed chemicals, animal wastes, pesticides, human threats, waste injected underground (such as oil field wastewater injection), and naturally occurring substances. In addition, water that is not properly treated may pose a threat to drinking water. The SDWA applies to all public water systems across the nation. The U.S. EPA, individual states, and water systems work in coordination to ensure that these standards are met. The U.S. EPA identifies potential contaminants, determines an allowable maximum contaminant level, and enforces the set standards.

State Regulations

Sustainable Groundwater Management Act

The SGMA is comprised of a three-bill legislative package, including AB 1739, Senate Bill (SB) 1168, SB 1319 (Chaptered in 2014), and subsequent statewide regulations. The SGMA provides a statewide framework for the long-term protection of groundwater resources by requiring local agencies to form Groundwater Sustainability Agencies for high- and medium-priority basins. Those Groundwater Sustainability Agencies are required to develop and implement a Groundwater Sustainability Plan to mitigate overdraft of groundwater resources. The Department of Water Resources (DWR) is responsible for assessing existing conditions and prioritizing groundwater basins within the state. There are three high-priority groundwater basins located partially or entirely within the County, including the San Luis Obispo Valley, Salinas Valley - Paso Robles Area and Cuyama Valley Basins. Adjudicated groundwater basin areas within the County (Los Osos Valley and Santa Maria River Valley Basins) are designated as very low priority SGMA areas and are not required to prepare Groundwater Sustainability Plans (CDWR 2024).

4.13 Public Services, Utilities and Service Systems

Urban Water Management Planning Act

The UWMP Act of 1983 (California Water Code Sections 10610 et seq.) requires that every supplier providing water for municipal purposes to more than 3,000 customers or suppliers supplying more than 3,000 AF of water annually to prepare a UWMP every five years. UWMP shall include a description of the service area, existing and planned sources of water available to the supplier, how much water the agency has on a reliable basis, how much it needs for the foreseeable future, what the agency's strategy is for meeting its water needs, the challenges facing the agency, and any other information necessary to provide a general understanding of the agency's plan. In addition, every urban water supplier shall prepare and adopt a water shortage contingency plan as part of its UWMP that includes, but is not limited to, an analysis of water supply reliability over a 20-year planning timeframe, the procedures used in conducting an annual water supply and demand assessment, define standard water shortage levels corresponding to progressive ranges of up to 50 percent shortages and greater than 50 percent shortages, and shortage response actions that align with the defined shortage levels.

California Senate Bill 610

SB 610 (Chapters in 2001) requires an additional assessment of whether available water supplies are sufficient to serve the demand generated by a proposed project, as well as the reasonably foreseeable cumulative demand in the region over the next 20 years under average normal year, single dry year, and multiple dry year conditions.

California Integrated Waste Management Act

The California Integrated Waste Management Act of 1989 (AB 939) was originally enacted to require cities and counties in the State of California to divert 25 percent of its waste streams by the year 1995 and 50 percent by the year 2000. Later legislation mandates the 50 percent diversion requirement to be achieved each year. Specifically, the act requires counties and cities to adopt a Source Reduction and Recycling Element of their Waste Management Plans to describe actions to be implemented to achieve waste reduction goals (PRC Section 41750). CalRecycle oversees and provides assistance to local governments as they develop and implement plans to meet the mandates of the Integrated Waste Management Act and subsequent legislation.

California Solid Waste Reuse and Recycling Access Act

The California Solid Waste Reuse and Recycling Access Act of 1991 (AB 1327) requires each local jurisdiction to adopt an ordinance requiring commercial, industrial, institutional building, marina, or residential buildings having five or more living units to provide an adequate storage area for the collection and removal of recyclable materials. The sizes of these storage areas are to be determined by the appropriate jurisdictions' ordinance. If no such ordinance exists within the jurisdiction, the CalRecycle model ordinance shall take effect.

Mandatory Commercial Recycling Program

The Mandatory Commercial Recycling Program (AB 341) authorizes CalRecycle to develop and adopt regulations for mandatory commercial recycling. AB 341 requires all commercial businesses and public entities that generate 4 cubic yards or more of waste per week to have a recycling program in place. In addition, all multi-family homes with more than five units are also required to have a recycling program in place.

California Senate Bill 1374

SB 1374 (Chaptered in 2002) was implemented to assist jurisdictions with diverting construction and demolition waste material. Per SB 1374, PRC Section 41821 requires public agencies to include a summary of the progress made in diverting construction and demolition waste according to diversion goals included in AB 939. Per SB 1374, PRC Section 41850 authorizes CalRecycle to fine jurisdictions that do not meet the required goals. Additionally, per SB 1734, PRC Section 42912 requires that CalRecycle adopt a model ordinance for diverting 50 percent to 75 percent of all construction and demolition waste from landfills.

Local Regulations

South County Coastal Area Plan

The County Area Plans are included as Part II of the LUCE. The South County Coastal Area Plan includes “Programs,” which are defined as specific non-mandatory actions or policies recommended by the County’s LUE to achieve community or areawide objectives identified in this areawide plan. Chapter 5, *Resource Management*, of the South County Coastal Area Plan provides an alert process for timely identification of potential resource deficiencies and summarizes assessments of the major resources of water supply, sewage disposal, schools, and road capacity (County 2018b).

4.13.3 Thresholds of Significance

The determinations of significance of Project impacts are based on applicable policies, regulations, goals, and guidelines defined by CEQA and the County and are discussed below.

4.13.3.1 Public Services

The Project would be considered to have a significant effect on public services if the effects exceed the significance criteria described below:

- a. Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
 - i. Fire Protection;
 - ii. Police Protection;
 - iii. Schools; or
 - iv. Parks.

4.13.3.2 Utilities and Service Systems

The Project would be considered to have a significant effect on utilities and service systems if the effects exceed the significance criteria described below:

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- b. Require or result in the relocation or construction of new or expanded water, wastewater treatment or storm water drainage, electric power, natural gas, or telecommunications facilities, the construction or relocation of which could cause significant environmental effects;
- c. Have sufficient water supplies available to serve the Project and reasonably foreseeable future development during normal, dry and multiple dry years;
- d. Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments;
- e. Generate solid waste in excess of state or local standards, or in excess of the capacity of local infrastructure, or otherwise impair the attainment of solid waste reduction goals; or
- f. Comply with federal, state, and local management and reduction statutes and regulations related to solid waste.

Each of these thresholds is discussed under Section 4.13.5, Project-Specific Impacts and Mitigation Measures, below.

4.13.4 Impact Assessment Methodology

4.13.4.1 Public Services

The Project would have a significant environmental impact if it were to directly result in the need for new or expanded public service facilities. The Project's potential to result in the need for new or physically altered public service facilities was evaluated by determining if the Project would result in activities or population growth that would increase demand on local public services and facilities.

4.13.4.2 Utilities and Service Systems

The Project would have a significant environmental impact if it were to exceed the capacity of existing utilities and service system, including water supply, wastewater treatment facilities, or solid waste facilities. The Project's potential to result in significant impacts related to utilities and service systems was evaluated by determining if the Project would result in activities or population growth that would increase demand on existing utilities and service systems.

4.13.5 Project-Specific Impacts and Mitigation Measures

The following sections discuss the Project's potential to result in adverse environmental effects to public services and utilities and service systems based on the thresholds identified above.

Impact #	Impact Description	Residual Impact
PSU.1	Threshold a.i): Would the Project result in an increased need for fire protection services or require the construction of new or physically altered fire protection facilities?	Class III

The Project site is located in a rural portion of Arroyo Grande, which is provided fire protection and emergency medical services by CAL FIRE/County Fire Station 20 and CAL FIRE/County Fire Station 22. The Project includes the demolition of the SMR, which includes demolition of existing aboveground and some belowground facilities as necessary for remediation. Other features to remain include essential infrastructure and utilities required to be kept in place by regulatory authorities and features retained for site security or for potential use by subsequent site occupants. The Project also includes remediation of soil at the Project site to meet applicable risk-based industrial standards. Existing hardscapes (e.g., concrete, asphalt, compacted base/gravel, and asphalt emulsion coating) would remain intact where feasible and would be replaced in areas where they may be demolished or removed for proposed remediation activities. Specific site remediation activities are currently not known; however, remediation would entail assessment and characterization of site soil and excavation in areas of identified impacted soils, where needed, and stockpiling, loading, and hauling of impacted material for off-site disposal. Proposed demolition activities would occur over a period of approximately 18 months and remediation activities are expected to occur over multiple years, up to 10 years. Project activities would require up to 45 construction workers per day (peak overlap of aboveground and belowground activities) that are expected to be sourced from the local employment force and would commute to the Project site. Therefore, the Project would not require relocation into the County in a manner that could increase population growth and demand on existing fire protection facilities.

The SMR stored and processed hazardous materials and substances that increased the risk of fire, hazardous material release, and medical emergencies at the Project site. As these materials have generally been removed from the SMR during the SMR shutdown, decontamination, and abatement activities (see Chapter 2.0, Project Description), the handling of these materials during proposed demolition activities would be minimal. However, the SMR maintains an emergency response plan that outlines the responsibilities of existing personnel to ensure that personnel would be able to adequately respond to an emergency in the event of a fire, hazardous material release, medical emergency, or rescue situation (County 2013). Further, the SMR updated the site operating plan and prepared a Memorandum of Understanding (Operating Plan/MOU) with CAL FIRE/County Fire to address various aspects of site safety and emergency response. Under its existing operational systems, the SMR is prepared to respond to emergencies internally, with support from outside authorities on an as-needed basis. Further, the SMR is coordinating with CAL FIRE/County Fire to ensure that adequate and appropriate fire and emergency response resources would be available during demolition and remediation in accordance with the California State Fire code and other applicable codes such as National Fire Protection Association (NFPA) 51B, “Standard for Fire Prevention During Welding, Cutting, and Other Hot Work;” and NFPA 241, “Standard for Safeguarding Construction, Alteration, and Demolition Operations.” Fire protection and emergency response services and capabilities would continue to be available throughout the Project and would be coordinated with CAL FIRE/County Fire. In addition, mitigation measure HAZ.7-1 in Section 4.9, Hazards and Hazardous Materials, addresses fire response planning.

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Therefore, the Project would not result in a substantial increase in demand on CAL FIRE/County Fire Station 20 or Station 22 during the demolition period.

As demolition and remediation activities progress on site, the required level of emergency services and capabilities would decrease because the volume and type of chemicals managed on site would be reduced. Following Project activities, the Project site would be vacant except for ongoing groundwater remediation activities and would not store any substantial quantities of hazardous materials or substances that could increase the risk of fire or other emergencies. The Project would allow for future industrial uses at the Project site; however, specific development plans for future uses at the site are currently not known. Based on the SMR's existing emergency response plan and negligible population increase, the Project would not increase demand on existing fire protection services in a manner that would require the construction of new or physically altered fire protection facilities; therefore, impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
PSU.2	Threshold a.ii): Would the Project result in an increased need for police protection services or require the construction of new or physically altered police protection facilities?	Class III

The Project site is currently provided with police protection services by the County Sheriff's South Station, which is located approximately two miles northwest of the Project site. The County Sheriff's South Station office would continue to provide protection services throughout the duration of Project activities. The Project includes demolition of the SMR, remediation of soils at the Project site, and replacement of existing hardscapes where necessary. Proposed demolition activities would occur over a period of approximately 18 months and remediation activities are expected to occur over multiple years, up to 10 years. Proposed demolition and remediation activities would require 45 construction workers per day that are expected to be sourced from the local employment force. Project personnel would be expected to commute to the Project site and would not require relocation into the County in a manner that could increase population growth and demand on existing police protection facilities.

During proposed demolition and remediation activities, existing SMR security personnel would monitor all entry points onto the property and would perform multiple perimeter checks during their shifts, which would reduce the likelihood of unauthorized use of the Project site and the number of calls to the County Sheriff's South Station. Therefore, Project activities would not result in a substantial temporary increase in demand on police protection services. Following proposed demolition and remediation activities, the Project site would be vacant pending sale for potential future industrial uses to be proposed by another party; the security fencing and perimeter lighting would remain. Project conditions of approval presented to the Planning Commission will include a condition requiring that security and maintenance of the site continue until a new use is established. Therefore, the Project would not result in new land uses or employment opportunities that could induce long-term growth within the County or otherwise increase demand on existing police protection services.

Based on the SMR’s existing security measures and negligible population increase, the Project would not increase demand on existing police protection services in a manner that would require the construction of new or physically altered police protection facilities; therefore, impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
PSU.3	Threshold a.iii): Would the Project increase demand on the LMUSD or require the construction of new or physically altered LMUSD facilities?	Class III

The Project site is located within the LMUSD. Proposed aboveground and belowground demolition and some remediation activities would occur over a period of 18 months. However, remediation activities are expected to continue up to 10 years. The Project would require up to 45 construction workers per day that would likely be sourced from the local employment force. Project personnel would be expected to commute to the Project site and would not require relocation into the County in a manner that could increase population growth and introduce new school-aged children to the Project area. Therefore, Project activities would not result in an increase in demand on the LMUSD in a manner that would require new or physically altered facilities. The Project would not result in new land uses or employment opportunities that could induce long-term population growth within the County or otherwise strain existing LMUSD resources and facilities, and impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
PSU.4	Threshold a.iv): Would the Project result in an increased demand on public park facilities or require the construction of new or expanded recreational facilities?	Class III

As previously described, proposed demolition activities would occur over an extended period and would require 45 construction workers per day that would be sourced from the local employment force. Project personnel would be expected to commute to the Project site and would not require relocation into the County in a manner that could increase population growth and associated demand on existing County park facilities. Further, the Project would not result in new land uses or employment opportunities that could induce long-term growth within the County or increase demand on existing public park facilities in a manner that would require the construction of new or expanded public park facilities, and impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
PSU.5	Threshold b): Would the Project require the construction of new or expanded water, wastewater treatment, stormwater drainage, electric power, natural gas, and telecommunications facilities?	Class III

The Project would result in the demolition of the SMR, including removal of existing aboveground and some belowground facilities as necessary for remediation. Other features to remain include essential infrastructure and utilities required to be kept in place by regulatory authorities and features retained for site security or for potential use by subsequent site occupants. The Project also includes remediation of soil at the Project site that is expected to entail assessment and

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characterization of site soil; excavation in areas of identified impacted soils, where needed; and stockpiling, loading, and hauling of impacted material for off-site disposal. Existing hardscapes would remain intact where feasible and would be replaced in areas where they may be demolished or removed for proposed remediation activities. The Project does not include the construction of new land uses or other infrastructure that would require the construction of new or relocation of existing water, wastewater treatment, stormwater drainage, electric power, natural gas, or telecommunications facilities. Therefore, impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
PSU.6	Threshold c): Would the Project have sufficient water supplies available to serve the project and reasonably foreseeable future development during normal, dry, and multiple dry years?	Class III

The Project site is located in the NMMA of the SMGB. In 2022, the SMR produced 1,110 acre-feet of groundwater.

The Project includes the demolition of the SMR, remediation of the site, and replacement of existing hardscapes where necessary. Proposed demolition activities would occur over a period of approximately 18 months and remediation and site restoration activities are expected to occur over multiple years, up to 10 years. During Project activities, water would be required for sanitary/comfort needs, dust control, equipment washing, and other incidental uses. The estimated water demand is 2.8 acre-feet per year (AFY) during aboveground demolition activities (primarily for dust control), 3.9 AFY for remediation and belowground demolition activities, and up to 14 AFY for irrigation during restoration. Water for Project activities would primarily be supplied by four existing groundwater well(s) on site to provide the potable water and 40,000 gallons per day to fill two trucks of 2,000-gallon capacity for on-site dust control. Therefore, water for proposed demolition activities (up to 14 AFY) would be less than the historical water use for the SMR (1,110 AFY) and the Project would ultimately reduce the demand on groundwater resources.

Following Project activities, the site areas where vegetation was impacted would be revegetated (primarily Area 6, see Figure 2-3). These revegetated areas would be irrigated during the initial planting phase and likely continue outside of the rainy season. In general, the primary method of irrigation would be by water truck with use of on-site well water. Other logistics would include on-site storage and pumping equipment, as needed. Aside from irrigation needs, the Project does not include the long-term development of new land uses or other facilities and would not require any additional connection to the groundwater or other water supply source. Therefore, the Project would increase the availability of water within the SMGB. The Project would greatly reduce groundwater production at the Project site; therefore, impacts related to water supply would be **less than significant (Class III)**.

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Impact #	Impact Description	Residual Impact
PSU.7	Threshold d): Would the Project generate wastewater in exceedance of existing or local infrastructure?	Class III

The SMR’s existing stormwater operations are covered under Individual NPDES Permit #CA0000051, which allows the SMR to discharge up to 0.575 million gallons per day of treated production wastewater and stormwater. Historically, the production of wastewater has been treated at the SMR’s WET plant and disposed of using the wastewater treatment system ocean outfall pipeline. The wastewater outfall pipeline would remain in place under California State Lands Commission lease requirements but would not be used to dispose of wastewater from the SMR. Therefore, no wastewater would be generated during Project activities that would be discharged through the outfall line. Any stormwater produced during Project activities would be managed under the California Industrial General Permit (IGP; NPDES Permit #CAS000001). Further, portable restrooms would likely be used by workers and other personnel throughout the construction period as well as some of the existing septic systems remaining in place during the demolition and remediation period. Therefore, Project activities would not generate wastewater in exceedance of existing infrastructure. The State Lands Commission lease is valid until 2028. Disposition of the outfall would ultimately be determined by the Commission.

Any stormwater produced during Project activities would be managed under the California Industrial General Permit (IGP; NPDES Permit #CAS000001). It is anticipated that the demolition would be phased to allow for retention of one or more existing restroom facilities with septic systems in place for use by construction personnel until the majority of aboveground facilities are removed. Portable restrooms would be provided to supplement personnel needs throughout the demolition and remediation construction period until the final structures and septic systems are removed. Post-construction, portable facilities would serve the revegetation and monitoring efforts. Therefore, Project activities would not generate wastewater in exceedance of existing infrastructure.

The Project would not generate any wastewater during short-term demolition or remediation activities or require any long-term connections to a local wastewater treatment provider, and impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
PSU.8	Thresholds e) and f): Would the Project generate solid waste in excess of the capacity of local infrastructure or otherwise impair state or local solid waste reduction goals?	Class III

The Project would result in the demolition of the SMR, including removal of existing aboveground and belowground facilities with the exception of essential infrastructure and utilities required to be kept in place by regulatory authorities and features retained for site security, groundwater remediation, or for potential use by subsequent site occupants. The Project also includes remediation of soil at the Project site that is expected to entail assessment and characterization of

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site soil; excavation in areas of identified impacted soils, where needed; and stockpiling, loading, and hauling of impacted material for off-site disposal. Existing hardscapes would remain intact where testing shows no remediation is required and would be replaced in areas where hardscape is removed for remediation activities. Proposed demolition activities would occur over a period of approximately 18 months and remediation activities are expected to occur primarily within the first three years, but continuing up to 10 years. Proposed demolition and remediation activities would result in a temporary increase in solid and construction-related waste to be disposed of at local landfills. See Chapter 2.0, Project Description, for a listing of demolition waste and recyclable materials.

As shown in Chapter 2.0, Project Description, aboveground demolition would result in 12,800 cubic yards of waste that would be disposed of at ECDC Environmental Landfill, Cold Canyon, Santa Maria Landfill, SA Recycling, and Santa Maria Transfer Station. These landfills would have adequate capacity to dispose of the short-term increase in solid waste generated by the Project. In addition, 76 percent of construction waste (excluding regulated waste) would be recycled in accordance with California's Green Building Standards Code (CALGreen) Sections 4.408 and 5.408, which requires diversion of at least 75 percent of construction waste and would further reduce the amount of waste disposed of at the identified landfills. Therefore, aboveground demolition activities would not generate solid waste in excess of the capacity of local infrastructure or otherwise impair state or local solid waste reduction goals.

As shown in Chapter 2.0, Project Description, belowground demolition would result in 206,120 cubic yards of waste that would be disposed of at ECDC Environmental Landfill, Santa Maria Transfer Station, and Gator Crushing and Recycling. These landfills would have adequate capacity to dispose of the short-term increase in solid waste generated by the Project. In addition, 97 percent of construction waste (excluding regulated waste) would be recycled in accordance with California's Green Building Standards Code (CALGreen) Sections 4.408 and 5.408, which requires diversion of at least 75 percent of construction waste and would further reduce the amount of waste disposed of at local landfills. Therefore, belowground demolition activities would not generate solid waste in excess of the capacity of local infrastructure or otherwise impair state or local solid waste reduction goals.

The Project would comply with federal, state, and local requirements related to management and reduction of solid waste through the use of recycling as described in Chapter 2.0, Project Description, with recycling rates estimated at 76 percent (Table 2.6).

As local landfills would have adequate capacity to dispose of the temporary increase in solid waste generated by Project activities, and the Project would be consistent with state and local waste-reduction goals, impacts would be **less than significant (Class III)**.

4.13.6 Mitigation Measure Impacts to Other Issue Areas

No mitigation measures are proposed for Public Services, Utilities and Service Systems.

4.13.7 Cumulative Impacts

The cumulative impact analysis is based on Chapter 3.0, Cumulative Study Area. As evaluated above, the Project would demolish and remediate the SMR, which would result in a vacant property that would ultimately reduce demand on existing public services and utilities and service systems. The Project would not result in new development that could induce population growth within the County and increase demand on fire and police protection services, public schools, recreational facilities, water supply, wastewater treatment facilities, or local landfills. Therefore, the Project would not contribute to an increase in demand on public services and utilities, and cumulative impacts would be less than cumulatively considerable.

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4.14 Recreation and Coastal Access

This section discusses the potential impacts of the Project on recreational facilities in the Project region and local vicinity. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition and remediation of the site followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

4.14.1 Environmental Setting

Benefits of recreation and exercise include greater resistance to stress, disease, anxiety, and fatigue, more energy and capacity for work and leisure activities, reduced risk of heart attack, and more. In addition to health benefits, parks and recreation facilities provide important social and cultural value to communities, they provide important economic benefits to the region through tourism and increased property values, and they can play an important role in conserving sensitive natural resources (County 2006).

Residents and visitors of the County of San Luis Obispo (County) have access to many diverse outdoor recreational opportunities provided by public agencies and non-profit organizations, including County parks, state parks and beaches, city parks, parks provided by community services districts, school district properties, federal lands (i.e., Los Padres National Forest and Carrizo Plain National Monument), and natural preserve areas (County 2019). Regional and local parks, recreation, and coastal access areas are described in detail below.

4.14.1.1 Regional Parks and Recreation Facilities

Parks and recreation are strongly linked; however, the County defines recreation as amenities that are provided within parks and may include, but are not limited to, benches, trails, interpretive displays, fields, playgrounds, etc. In addition, recreation can be defined as active or passive. Active recreation typically involves facilities and large groups of people. Examples of active recreation include community centers, skate parks, tennis courts, sports facilities, and swimming pools. Passive recreation includes more tranquil activities and does not necessarily involve a large group of people. Examples of passive recreation include walking trails, picnic sites, bird watching areas, and scenic outlooks (County 2006).

The County Department of Parks and Recreation owns and maintains recreational facilities (County 2006) listed in Table 4.13.2.

4.14 Recreation and Coastal Access

- **Parks.** The County provides many types of parks and related facilities. Mini and neighborhood parks typically include playground equipment, individual picnic areas, open play areas, and/or benches. Community parks typically include sports complexes, community centers, tennis and basketball courts, skate parks, group picnic areas, and/or a swimming pool. Regional parks typically include facilities for camping, fishing, boating, and/or hiking. Table 4.13.2 identifies the existing park facilities within the County.
- **Recreation Programming.** Recreation programming includes organized leagues or classes, such as sports camps, league sports, etc. This amenity has not historically been offered by the County; however, the County provides swim lessons and aquatic programs, including junior lifeguards and water aerobics.
- **Golf Courses.** The County operates three golf courses, including Morro Bay Golf Course, Chalk Mountain Golf Course, and Dairy Creek Golf Course. Each golf course consists of 18-hole, championship-style facilities, except Dairy Creek Golf Course, which provides a nine-hole course. Morro Bay Golf Course is part of Morro Bay State Park in Morro Bay, Chalk Mountain Golf Course is part of Heilmann Regional Park in Atascadero, and Dairy Creek Golf Course is part of El Chorro Regional Park near the city of San Luis Obispo.
- **Trails.** The County provides trails within its regional parks, community parks, and communities and neighborhoods as connectors. Trails managed by the County include Bob Jones Pathway (connects the city of San Luis Obispo and the community of Avila Beach) and Hi Mountain Trail (connects Lopez Lake Recreation Area with Los Padres National Forest). Other trails have been authorized to provide passive recreation while connecting parks, schools, and libraries with neighborhoods. Most trails in the County are designated for multi-use, allowing equestrians, pedestrians, and bicycles.
- **Special Places.** Special recreational opportunities provided by the County include access along and to the coastline (e.g., Morro Bay Estuary), historic sites (e.g., Rios Caledonia Adobe), and natural areas (e.g., Bishop Peak, Elfin Forest), which balance passive use with resource preservation.
- **Partnerships.** Partnerships include other agencies and organizations working with the County to provide resources (e.g., volunteer hours, expertise, grantsmanship, etc.) that benefit the County's parks system. For example, the San Luis Obispo Botanical Garden was initially an idea brought to the County by a nonprofit organization and was developed through coordination between the nonprofit organization and the County.

In addition to County-provided recreational opportunities, the County's seven incorporated cities operate their own parks and recreation programming. Typically, city parks and their recreation programs are available to people who live within the unincorporated areas just as County parks and recreation facilities are available to city residents. Partnerships between the County Parks and Recreation Department and cities have expanded recreation opportunities for use by local residents regardless of whether they live within a city or the unincorporated part of the County. Examples include cooperative development of Barney Schwartz Park in the city of Paso Robles and the joint use of ball fields between the City of San Luis Obispo and the County. There are also private recreation facilities located within the County, which are taken into consideration during recreational planning (County 2006).

4.14.1.2 Local Recreation Facilities

Significant recreational resources in the Project vicinity are discussed in further detail below.

Juan Bautista de Anza National Historic Trail

A portion of the mapped historic trail corridor for the Juan Bautista de Anza National Historic Trail is located directly to the east of the Project site. The historic trail corridor has been mapped by the National Park Service to indicate the general path believed to have been traveled by the 1776 Anza expedition, the first colonizing expedition from New Spain to come overland into California. At this location, the mapped historic corridor does not relate to any existing physical recreational facility that has been developed on the ground. However, it connects a variety of historic sites related to the Spanish Colonial era and areas along the route, particularly areas where the expedition is known to have camped and that have the potential to contain significant artifacts related to the expedition. A recreational trail was developed along the Monarch Dunes frontage with State Route 1 along this portion of the trail corridor and the areas within the mapped historical corridor have been included in the County's inventory of "Proposed Trail Corridors" and may be developed in the future.

Oceano Dunes State Vehicular Recreation Area

Oceano Dunes State Vehicular Recreation Area (ODSVRA) is a geologically unique sand dune complex that provides over approximately 1,000 acres for public off-highway vehicle (OHV) use. One of several OHV areas administered by the California Department of Parks and Recreation (CDPR), also referred to as State Parks, the ODSVRA offers visitors recreational activities such as swimming, surfing, surf fishing, camping, and hiking (CDPR 2023). The ODSVRA is located approximately 0.5 mile west of the western boundary of the Project site.

Oso Flaco Lake Natural Area

Oso Flaco Lake Natural Area is a public state park located south of and adjacent to ODSVRA, approximately 1.4 miles southwest of the Project site. The Oso Flaco Lake Natural Area is a 9,800-acre day use area and is designated for hiking, fishing, bird watching, nature study, and other non-motorized uses (CDPR 2023).

Guadalupe-Nipomo Dunes National Wildlife Refuge

The Guadalupe-Nipomo Dunes National Wildlife Refuge (Refuge), administered by the U.S. Fish and Wildlife Service (USFWS), was established in August 2000 to conserve central California coastal dune and associated wetland habitat and support the recovery of native plants and animals that are federally listed as threatened or endangered, including, but not limited to, breeding habitat for the endangered California least tern, California red-legged frog, and threatened Western snowy plover. The Refuge is located in the heart of the Guadalupe-Nipomo Dunes Preserve, along an 18-mile stretch of coastline that occupies approximately 20,000 acres of southwestern San Luis Obispo County and northwestern Santa Barbara County. Public visitors may hike in from either the Rancho Guadalupe Dunes County Park from the south or the Oso Flaco Lake Natural Area from the north. The Refuge is located approximately 1.8 miles southwest of the Project site and offers numerous recreational opportunities including hiking, wildlife viewing, and fishing (USFWS 2023).

4.14.1.3 Coastal Access

The County requires development within the Coastal Zone between the first public road and the tidelands to protect and/or provide coastal access as required in the Coastal Zone Land Use Ordinance (CZLUO) Section 23.04.420. In general, lateral access refers to provision for public access and use along the shoreline, whereas vertical access refers to provision for access from the first public road to the shore, or perpendicular to the shore. The County's requirements for establishing new coastal access are described in detail in Section 4.14.2, Regulatory Setting. Existing coastal access within the vicinity of the Project site and within the Project site is described below.

Local Coastal Access

The Project site is located east of the ODSVRA, and northeast of the Oso Flaco Day Use Area and Oso Flaco Lake Trail. The Nipomo Bluff Trail terminates approximately 0.6 mile east of the Project site, and a small segment of the Juan Batista de Anza National Historic Trail has been constructed along a portion of State Route 1 east of the Project area. The western Phillips 66 property line is approximately 1.5 miles from the ocean. The nearest vertical coastal access points are located approximately 4.5 miles to the north (pedestrian and vehicle access at the entrance to the ODSVRA) and 0.74 mile south (pedestrian only access from Oso Flaco Lake).

ODSVRA Coastal Access Background

In 1982 the California Coastal Commission (CCC) approved Coastal Development Permit (CDP) 4-82-300 that authorized uses and development at ODSVRA. The CDP included a series of requirements designed to allow for final decisions to be made on Park management issues including the nature and intensity of allowed public recreational uses. Use of OHVs have historically been allowed uses subject to the CDP. In addition to considering five CDP amendments through 2001, the CCC also performed six annual CDP re-reviews between 2002 and 2007. The CCC expressed concerns to State Parks in these annual re-review and amendment settings regarding the issues that OHV and other vehicular activities raised when conducted in environmentally sensitive habitat areas (ESHA) over the years. However, the CDP did not change with respect to the intensity of allowed uses beyond what had been approved in 1982 (CCC 2020).

In July 2019, the CCC gave direction to State Parks that stated:

[I]n the Coastal Commission's view, [Oceano Dunes] SVRA operations that are fully consistent with on-the ground realities, and with today's laws and requirements, do not include OHV use.

In March 2021, the CCC amended the CDP to phase out the use of OHVs over three years, restrict driving vehicles on the beach and camping to the north end of the park, and close the Pier Avenue entrance. The organization Friends of Oceano Dunes, a nonprofit community organization, subsequently challenged these amendments in court, alleging that the CCC abused its discretion by phasing out OHV use at the park (Superior Court County of San Luis Obispo 2023).

On July 19, 2023, the San Luis Obispo County Superior Court ruled that the CCC did abuse its discretion when it decided to phase out all OHV at Oceano Dunes and also ruled in favor of the plaintiff's argument that the CCC failed to comply with the California Environmental Quality Act

(CEQA) because it failed to do a traffic impact analysis for the decision to close the Pier Avenue vehicle access point to the ODSVRA. As a result, the Court overturned the CCC's March 2021 amendment to the CDP (San Luis Obispo Tribune 2023). That Superior Court decision is currently pending in the Court of Appeals.

Project Site Coastal Access Background

The Project site is within the Coastal Zone and is subject to the California Coastal Act and the County's CZLUO enacted to ensure compliance with the California Coastal Act. Within the CZLUO, Section 23.04.420 addresses the requirement for certain projects and project sites to provide public coastal access (see Section 4.14.2, Regulatory Setting). Subsection d(1)(ii) specifies that vertical access (access between the first public road to the shore, or perpendicular to the shore) is required in rural areas where no dedicated or public access exists within one mile, or if the site has more than one mile of coastal frontage, an accessway shall be provided for each mile of frontage. Subsection d(2) specifies that vertical access dedication shall be a minimum width of five feet in urban areas and 10 feet in rural areas.

The first public road from the beach in the vicinity of the Santa Maria Refinery (SMR) site is State Route 1. The SMR property extends west from State Route 1 to the western property line shared with the ODSVRA, such that the SMR property does not extend to shoreline. Any coastal access would have to cross the Union Pacific Railroad (UPRR) right-of-way (ROW), a fee-owned 100-foot-wide strip of land bisecting the SMR property. In order to gain coastal access from the SMR property, access would be required across the Oceano Dunes property held by CDPR, as well as UPRR property.

Two previous permits were submitted by the Applicant for Phillips 66 SMR and processed by the County that evaluated requirements for coastal access. Both projects had an Environmental Impact Report (EIR) prepared and went to the Board of Supervisors for a final decision, with different outcomes:

- DRC2012-00095 (Rail Spur Extension): a draft EIR circulated in November 2013; the Project was denied by the Board of Supervisors on March 14, 2017, and the associated EIR (SCH #2013071028) was not certified; and
- DRC2008-00146 (Throughput Increase Project), which was approved by the Board on February 26, 2013, with a separate, certified EIR (SCH #2008101011).

The approved Throughput Increase Project (DRC2008-00146) included Condition #17, which required an offer of dedication for vertical access from State Route 1 to the western property line to comply with the coastal access provisions of the Coastal Act and the CZLUO. This requirement was consistent with the standards of Section 23.04.420, including provisions that a vertical right of access be provided for each mile of coastal frontage, unless that access would be inconsistent with public safety, military security needs, or the protection of fragile coastal resources. The steps for implementing coastal access Condition 17 would involve Phillips 66 submitting an Offer to Dedicate (OTD) Vertical Public Access Easement prior to receiving notice to proceed for the Throughput Increase Project. In addition, Phillips 66 could submit documentation demonstrating that coastal access at the SMR would be inconsistent with the requirements of Section 23.04.420 of the CZLUO due to public safety and coastal resource issues.

4.14 Recreation and Coastal Access

During review of the Rail Spur Extension Project, the County determined that it was appropriate to include a programmatic assessment of various vertical access options and potential environmental impacts of developing the accessway. A study was prepared for the FEIR in December 2015 to assist in determining if a vertical coastal accessway at the SMR would be consistent with the requirements of Section 23.04.420 of the CZLUO.

While the Rail Spur Extension Project was ultimately not approved and the EIR was not certified, the assessment was available for use by the County to assist in determining:

1. The level of coastal access, if any, and the associated impacts, that would be appropriate for the refinery site consistent with the standards of Section 23.04.420 of the CZLUO; and
2. What intensity of use and type of coastal access would be appropriate at the SMR site.

The assessment identified an existing service road extending west from the SMR towards the coast for maintenance of the outfall facility as an option for providing coastal access that would reduce impacts to sensitive coastal resources. The location of this road access which crosses the railroad property is shown in Figure 4.14-1. Three possible options for use of this service road and the adjacent area were identified, which included the following:

- Bicycle and Pedestrian Access,
- Motor Vehicle, Bicycle, and Pedestrian Access, and
- Docent Led Access for Pedestrians Only.

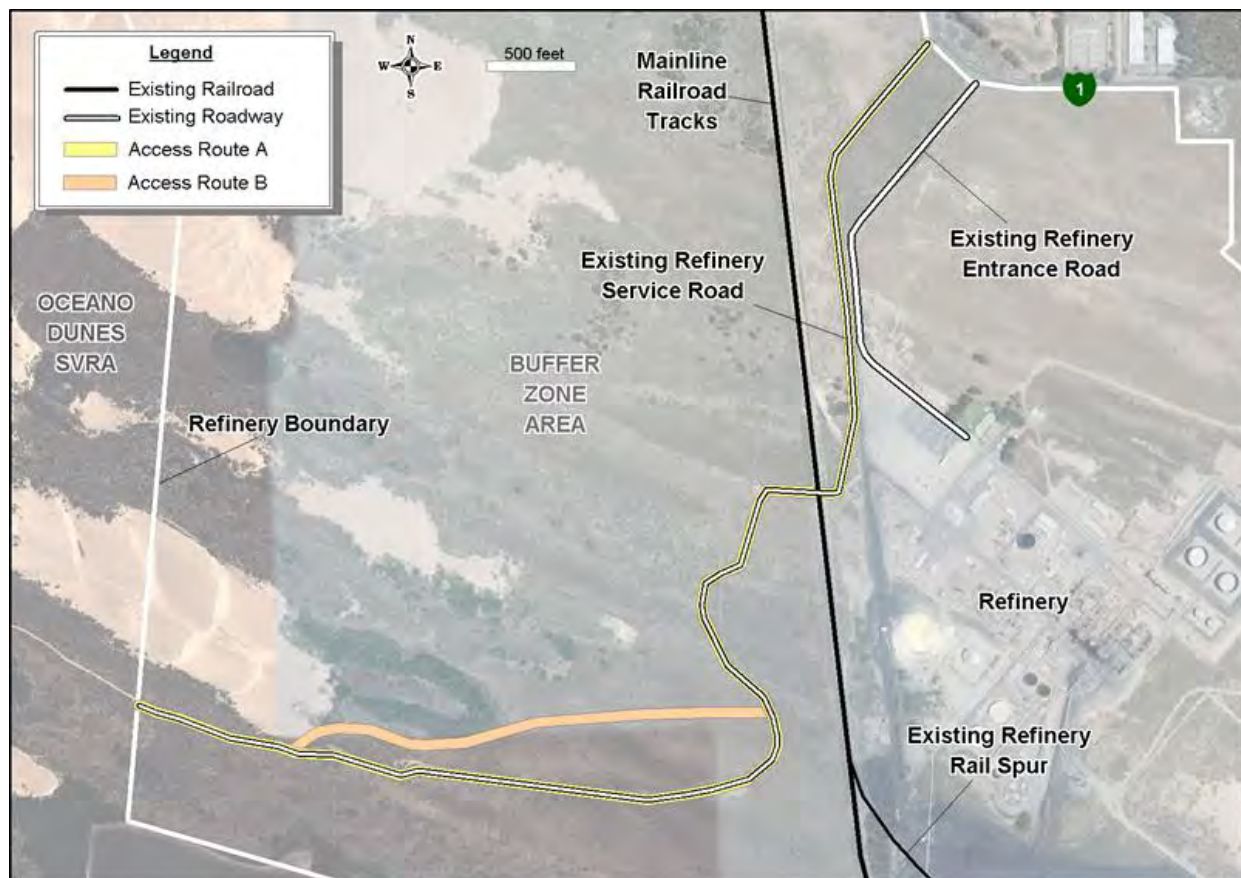
These three options were selected because they represent the full range of intensity for coastal access. The assessment concluded that the docent-led coastal access option would have the lowest level of impacts on the environment, the bicycle/pedestrian coastal access option would have the second lowest level of impacts on the environment. The motor vehicle coastal access would provide the highest intensity of public use but would also have the greatest level of impact on the environment and most potential for inconsistencies with land use policies.

The current SMR service road has a private “at-grade” crossing of the railroad tracks and is classified as a private crossing. The railroad ROW is owned by UPRR, and any future development/establishment of public coastal access would require an agreement with UPRR to cross their property. The California Public Utilities Commission (CPUC) has exclusive jurisdiction over railroad crossings in California (Public Utilities Code §§1201-1202). If the railroad crossing was to be used as a bicycle and pedestrian path, for public vehicle access, or for docent-led access, the classification of the crossing would change from private to public, and a permit would be required from the CPUC. UPRR has stated that they would oppose any application to the CPUC that would change the existing at-grade crossing from private to public (County 2015, County 2024). The CPUC Policies and Procedures require that public railroad crossings use a separated grade (the crossing is located above or below the railroad tracks), unless it can be shown why a separation of grades is not practicable (CPUC Policies and Procedures, Rule 3.7). In discussion with CPUC staff, they have stated that any changes from private to public use of the Union Pacific Mainline DOT #745382G must be grade-separated to accommodate a change from private to

public use. This would require a formal application process with the CPUC (County 2015, County 2024).

Construction of the coastal access across the SMR property would need to connect with access into the ODSVRA. At the time of preparation of the Rail Spur Extension Project EIR, the ongoing deliberations regarding the best manner and location for access and staging for the ODSVRA had not been completely resolved. Conditions included in the CDPR's Coastal Development Permit issued by the CCC (CDP 4-82-300, as amended) for the ODSVRA operations required CDPR to determine a permanent access and staging location for OHV activities that is the least environmentally damaging alternative and that incorporates all feasible mitigation measures. As a result, a number of studies have been conducted to examine potential alternative access routes into the ODSVRA, including the State Parks studies which did not identify this site as a potential access location. The Rail Spur Extension Project EIR concluded that until the CDPR resolves the long-standing issues associated with access and staging for the ODSVRA, the most appropriate type and location of future coastal access on the SMR site is uncertain (County 2015).

Figure 4.14-1 Possible Locations for Coastal Access at the SMR Property



Source: County 2015

In March 2015 the County issued a final notice to proceed for the Throughput Project. As required, Phillips 66 provided the County with an Irrevocable OTD Vertical Public Access Easement, recorded April 15, 2015, which is valid for a duration of 21 years. The OTD, which encumbers a

4.14 Recreation and Coastal Access

private service road used by Phillips 66 to inspect the wastewater outfall pipeline, is in two segments bisected by the UPRR fee-owned land. The OTD will expire unless accepted; acceptance is contingent on the Applicant or their successor-in-interest meeting all of the condition requirements to construct the coastal access by April 2036.

4.14.1.4 Determining Parks and Recreation Need

National Recreation and Park Association

Due to an increase in urban and suburban populations in the 1960s and 1970s, the 1983 National Recreation and Park Association (NRPA) park standards were established to guide communities in planning for future park demands. Table 4.14.1 identifies the national park standards.

Table 4.14.1 National Recreation and Park Association Park Standards

Classification	Acres / 1,000 people	Size Range	Population Served	Service Area
Neighborhood Parks	1–2	15+ acres	One neighborhood (approximately 5,000 people)	1/4–1/5 miles
Community Parks	5–8	25+ acres	Several neighborhoods	1–2 miles
Regional Metropolitan Parks	5–10	200+ acres	Several communities	1 hour driving time
Regional Park Reserve	Variable	1,000+ acres	Several communities	1 hour driving time
Special Areas	No Applicable Standard	Includes linear parks, trails, beaches, golf courses, historical sites, flood plains, coastal accessways, etc.		
Conservancy (Natural Areas)	No Applicable Standard	Protection and management of the natural/cultural environments with recreational use as a secondary objective.		

Source: County 2006

The NRPA park standards provide a starting point for assessing the current need for parks within a community and recommend developing individual local standards for assessing the need for parkland (County 2006).

San Luis Obispo County Levels of Severity

The County’s most recent resource summary report is the 2016–2018 Resource Summary Report, which assesses several resources, including parks. The report evaluates existing resources using a Resource Management System, which helps decision makers balance land development and existing resources by assessing resource levels and determining the level of development those resources could sustain. The Resource Management System identifies the following three alert levels, called “levels of severity,” to identify potential resource deficiencies:

- **Level 1.** This level of severity is the first alert of resource deficiency and occurs when there is sufficient lead time to either expand the capacity of the resource or slow the rate at which the resource is being depleted;
- **Level 2.** This level of severity identifies the crucial point when some moderation of the rate of resource use must occur to avoid reaching or exceeding the capacity of the resource; and

- **Level 3.** This level of severity is the most critical level of concern and occurs when the demand for the resource is equivalent or exceeds its supply. Typically, the County is responsible for taking action to address resource deficiencies before this level of severity is reached.

As described in the County’s 2016–2018 Resource Summary Report, to assess the level of severity for regional parks, the total acreage of regional parks was divided by the estimated total 2018 County population, which includes cities and unincorporated areas. The total 2018 County population was estimated to be 282,544, and the total acreage of regional parks was estimated to be 11,991 acres. Based on these statistics, the County provides 42.4 acres of parkland per every 1,000 residents. Therefore, the County provides more than 10 to 15 acres of regional parkland per 1,000 persons and this resource has not been assigned a recommended level of severity (County 2019).

As described in the County’s 2016–2018 Resource Summary Report, to assess the level of severity for community parks, the population within a five-mile radius of the URL for the 10 unincorporated communities was determined using 2010 census block data. The resulting population was adjusted by applying the population growth rate for 2010 to 2018 to reflect the 2018 population (County 2019). For the community of Nipomo, the total population in 2018 was estimated to be 29,040. Nipomo Community Park provides 136 acres of total parkland acreage for the community; therefore, the community of Nipomo provides approximately 4.23 acres of parkland per every 1,000 residents and has not been assigned a level of severity since there are more than two to three acres of community parkland per 1,000 residents in the community (County 2019). However, the Nipomo Community Park Master Plan notes that there are only 15 acres of active recreation facilities within Nipomo Community Park, which results in less than one acre of active recreation facilities per 1,000 residents in the community (County 2012).

The demand for certain types of recreation ebbs and flows over time and popular new recreational pursuits can create acute unmet demand in a short period. For this reason, the County periodically reexamines the traditional models for determining what facilities should be included in every park based on examining statewide and national trends, performing periodic County-wide surveys, conducting local workshops, and/or preparing and updating master plans for each park facility (County 2006).

4.14.2 Regulatory Setting

4.14.2.1 Federal Regulations

Coastal Zone Management Act

The Coastal Zone Management Act (CZMA) was passed in 1972 and outlines the management of the nation’s coastal resources including the Great Lakes. Its goal is to “preserve, protect, develop, and where possible, to restore or enhance the resources of the nation’s coastal zone.” The CZMA is administered by the National Oceanic and Atmospheric Administration (NOAA) and outlines three national programs, the National Coastal Zone Management Program, and the National Estuarine Research Reserve System, and the Coastal and Estuarine Conservation Program.

4.14.2.2 State Regulations

The Quimby Act

The Quimby Act (AB 1191) authorizes the legislative body of a county or city to require the dedication of land or to impose fees for park and recreational purposes as a condition of the approval of a tentative or parcel subdivision map if specified requirements are met. Existing law requires fees collected to be committed within five years after the payment of fees or issuance of building permits on half of the lots created by the subdivision, whichever occurs later. Existing law also requires fees not committed to be distributed and paid to the then record owners of the subdivision, as specified. The Quimby Act allows fees to be collected for up to three acres of parkland per 1,000 residents to serve the needs of residents of the county.

California Coastal Act of 1976

The California Coastal Act of 1976 mandates that local governments prepare a land use plan and schedule of implementing actions to carry out the policies of the California Coastal Act. The California Coastal Act guides how land along the coast of California is developed, or protected from development and identifies maintaining public access to the coast as a top priority, as well as preservation of sensitive coastal and marine habitat and biodiversity. The California Coastal Act defines the area of the coast that falls under the jurisdiction of the CCC, which is called the Coastal Zone. The Coastal Zone extends seaward to the state's outer limit of jurisdiction (three miles) and generally extends inland 1,000 yards from the mean high tide line of the sea, but it is wider in areas with significant estuarine, habitat, and recreational values, and narrower in developed urban areas. The Project is located within the Coastal Zone.

4.14.2.3 Local Regulations

County of San Luis Obispo General Plan

Parks and Recreation Element

The County's Parks and Recreation Element establishes goals, policies, and implementation measures for the management, renovation, and expansion of existing, and the development of new parks and recreation facilities in order to meet existing and projected needs and to assure an equitable distribution of parks throughout the County (County 2006).

Land Use Element, Framework for Planning – Coastal Zone

The County Framework for Planning serves as the Land Use Element (LUE) for the County (County 2018). The LUE is a plan describing the official County policy on the location of land uses and their orderly growth and development. The LUE coordinates policies and programs in other County General Plan elements that affect land use and provides policies and standards for management of growth and development in each unincorporated community and the rural areas of the County. The LUE also serves as a reference point and guide for future land use planning studies throughout the County.

The LUE also incorporates the Land Use Plan portion of the County Local Coastal Program (LCP), which has been certified by the CCC. The Land Use Plan is the Land Use Element for the Coastal Zone, which is the area subject to the California Coastal Act of 1976. The Land Use Plan, together with the CZLUO and related maps, comprise the County's LCP.

Coastal Zone Land Use Ordinance

The CZLUO constitutes Title 23 of the San Luis Obispo County Code. The CZLUO was established to guide and manage the future growth in the coastal zone of the County in accordance with the General Plan, to regulate land use in a manner that will encourage and support orderly development and beneficial use of lands, to minimize adverse effects on the public resulting from inappropriate creation, location, use, or design of buildings or land uses, and to protect and enhance significant natural, historic, archaeological, and scenic resources within the coastal zone of the County. The CZLUO is the primary tool used by the County to carry out the goals, objectives, and policies of the General Plan for land use and planning decisions within the coastal zone.

Section 23.04.420 of the CZLUO outlines the coastal access standards established by the County to satisfy the intent of the California Coastal Act:

a. Access defined:

- 1) ***Lateral access:** Provides for public access and use along the shoreline.*
- 2) ***Vertical access:** Provides access from the first public road to the shore, or perpendicular to the shore.*
- 3) ***Pass and repass:** The right of the public to move on foot along the shoreline.*

*b. **Protection of existing coastal access:** Development shall not interfere with public rights of access to the sea where such rights were acquired through use or legislative authorization. Public access rights may include but are not limited to the use of dry sand and rocky beaches to the first line of terrestrial vegetation.*

*c. **When new access is required:** Public access from the nearest public roadway to the shoreline and along the coast shall be provided in new development projects except where:*

- 1) *Access would be inconsistent with public safety, military security needs or the protection of fragile coastal resources; or*
- 2) *The site already satisfies the provisions of subsection d of this section; or*
- 3) *Agriculture would be adversely affected; or*
- 4) *The proposed new development is any of the following:*
 - i. Replacement of any structure pursuant to the provisions of Section 30610(g) of the California Coastal Act.*
 - ii. The demolition and reconstruction of a single-family residence; provided that the reconstructed residence shall not exceed either the floor area, height or bulk of the former structure by more than 10 percent, and that the reconstructed residence shall be sited in the same location on the affected property as the former structure. As used in this subsection, “bulk” means total interior cubic volume as measured from the exterior surface of the structure.*

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- iii. *Improvements to any structure that do not change the intensity of its use, or increase either the floor area, height or bulk of the structure by more than 10 percent, which do not block or impede public access and do not result in additional seaward encroachment by the structure. As used in this subsection, "bulk" means total interior cubic volume as measured from the exterior surface of the structure.*
- iv. *The reconstruction or repair of any seawall; provided that the reconstructed or repaired seawall is not seaward of the location of the former structure.*
- v. *Any repair or maintenance activity excluded from obtaining a land use permit by this title, except where the Planning Director determines that the use or activity will have an adverse effect on lateral public access along the beach.*
- vi. *Nothing in this subsection shall restrict public access nor shall it excuse the performance of duties and responsibilities of public agencies which are required by Sections 66478.1 to 66478.14, inclusive, of the Government Code and by Section 4 of Article X of the California Constitution.*

d. **Type of access required:**

1) **Vertical Access:**

- i. **Within urban and village areas:** *Within an urban or village area where no dedicated or public access exists within one-quarter mile of the site, or if the site has more than one-quarter mile of coastal frontage, an accessway shall be provided for each quarter mile of frontage.*
- ii. **In rural areas:** *In rural areas where no dedicated or public access exists within one mile, or if the site has more than one mile of coastal frontage, an accessway shall be provided for each mile of frontage.*
- iii. **Prescriptive rights:** *An accessway shall be provided on any site where prescriptive rights of public access have been determined by a court to exist.*
- iv. **Additional accessways:** *The applicable approval body may require accessways in addition to those required by this section where the approval body finds that a proposed development would, at the time of approval or at a future date, increase pedestrian use of any adjacent accessway beyond its capacity.*

2) **Vertical access dedication:** *Accessways shall be a minimum width of five feet in urban areas and 10 feet in rural areas.*

3) **Lateral access dedication:** *All new development shall provide a lateral access dedication of 25 feet of dry sandy beach available at all times during the year. Where topography limits the dry sandy beach to less than 25 feet, lateral access shall extend from the mean high tide to the toe of the bluff. Where the area between the mean high tide line (MHTL) and the toe of the bluff is constrained by rocky shoreline or other limitations, the County shall evaluate the safety and other constraints and whether alternative siting of accessways*

is appropriate. This consideration would help maximize public access consistent with the LCP and the California Coastal Act.

Coastal Plan Policies

The County of San Luis Obispo Local Coastal Plan Policy Document is part of the County's LCP and LUE (County 2007). Many of the policies include programs and standards, some of which have been implemented in the CZLUO and planning area standards. The LUE is the coordinating mechanism for incorporating the policies of this document that have land use implications. In addition to amended portions of the LUE and the CZLUO, this document states the policy commitment of the County to implement the mandates of the Coastal Act. The document includes policies related to shoreline access, recreation and visitor-serving facilities, coastal watershed, visual and scenic resources, hazards, and air quality, among others.

4.14.3 Thresholds of Significance

The determinations of significance of Project impacts are based on applicable policies, regulations, goals, and guidelines defined by CEQA and the County. Specifically, the Project would be considered to have a significant effect on land use and planning if the effects exceed the significance criteria described below:

- a. Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- b. Include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment.

Each of these thresholds is discussed under Section 4.14.5, Project-Specific Impacts and Mitigation Measures, below.

4.14.4 Impact Assessment Methodology

The following impact assessment evaluates the potential for the Project to result in adverse change to the existing setting, which was identified using County documents and review of other pertinent literature, including, but not limited to, the *County of San Luis Obispo General, Plan Parks and Recreation Element* (County 2006); *County of San Luis Obispo Framework for Planning – Coastal Zone* (County 2018); the *County of San Luis Obispo General Plan, 2016–2018 Resource Summary Report* (County 2019); the *Vertical Coastal Access Assessment* prepared for the 2015 Phillips 66 Rail Spur Extension Project (County 2015); and the *Coastal Access Feasibility Review* prepared for the Project (ARCADIS US Inc. 2013). The following section identifies the Project's potential to result in adverse environmental effects to recreational facilities and coastal access based on the Project's potential to exceed the significance criteria identified above in Section 4.14.3.

4.14 Recreation and Coastal Access

4.14.5 Project-Specific Impacts and Mitigation Measures

Impact #	Impact Description	Residual Impact
REC.1	Threshold a): Would the Project increase use of existing neighborhood or regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	Class III

The Project does not propose development of any long-term land uses of the Project site following completion of demolition and remediation activities. The Project would not directly result in the construction of residential uses or otherwise induce population growth in a manner that would increase demand on recreational resources in the Project vicinity.

The Project would generate a maximum daily workforce of 45 temporary construction workers during the overlap of the aboveground demolition phase and the remediation phase. The belowground remediation and demolition phase is estimated to be between three years and 10 years in total duration, with a substantial amount of the remediation and belowground demolition work being completed in the first three years and work continuing at a substantially slower pace over additional years. The majority of workers supporting these activities would be anticipated to come from the existing local workforce. However, a small portion of the workers would be expected to come from areas outside of the County due to the specialized nature of demolition and remediation of oil refinery facilities. Due to the potential longevity of the remediation phase, the Project may result in a minor, short-term increase in the overall population in the community of Nipomo and surrounding areas.

The employment opportunities generated by the Project during demolition of existing facilities and remediation of the site would be limited in quantity (up to 45) and would not result in an increase in local population that would be significant enough to result in an increased demand on local recreational resources. In addition, based on the *2016–2018 County of San Luis Obispo Resource Summary Report*, the community of Nipomo provides approximately 4.23 acres of parkland per every 1,000 residents and has not been assigned a parks/recreation level of severity since there are more than two to three acres of community parkland per 1,000 residents in the community (County 2019). The minor increase in park and recreation facilities users that may result from the Project would result in a negligible acceleration of deterioration of local facilities based on the existing low ratio of population to parkland and recreational facilities. Therefore, impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
REC.2	Threshold b): Would the Project include recreational facilities or require the construction or expansion of recreational facilities which may have an adverse physical effect on the environment?	Class III

As discussed in Section 4.14.1.3 above, a land use permit previously issued for the Phillips 66 Throughput Increase Project (approved February 2013 and subsequently withdrawn in 2021)

included a requirement for an OTD for vertical access from State Route 1 to the Phillips 66 western property line. The requirement was imposed to comply with coastal access provisions consistent with the standards of Section 23.044.20, unless that access would be inconsistent with public safety, military security needs, or the protection of fragile coastal resources. The OTD was recorded in April 2015 and valid for 21 years.

As discussed above, a *Vertical Coastal Access Assessment* was prepared for the Phillips 66 Rail Spur Extension Project (County 2015), which identified an existing service road extending west from the SMR towards the coast for maintenance of the outfall facility as a suitable option for providing coastal access that would reduce impacts to sensitive coastal resources. The Assessment concluded that the CDPR has long-standing issues associated with access and staging for the ODSVRA and those issues affect connectivity of any access from the Phillips 66 property. Based on the ongoing deliberations and legal challenges (see above) regarding the future of OHV uses and vehicle access to the ODSVRA, the most appropriate type and location of coastal access to be provided on the SMR site remains to be determined.

The current Project includes demolition and removal of the SMR facilities followed by soil testing and remediation, with retention or replacement of existing hardscape on the majority of the Project site and some areas of revegetation. While these activities constitute new development as defined by the Coastal Act and the CZLUO, the Project does not impede public access to the shoreline, and the result of the Project would be a vacant site with minimal maintenance and management oversight. Following proposed demolition and remediation activities, there are currently no proposed plans for future development or uses of the Project site. The recorded 21-year Irrevocable Offer to Dedicate public access on the property remains in effect and expires in 2036 unless accepted by constructing and recording a trail easement.

The provision of vertical access was studied under two prior projects and the primary issue with design and construction is the fact that the UPRR line bisects the Phillips property, such that public access would most likely need an under- or over-crossing of the 100-foot ROW. In addition, the connection from the westerly terminus of the public access on the Phillips property would need to connect to the CDPR property and be acceptable in location and alignment. The Demolition and Remediation Project does not create any impact that would justify the extensive cost and effort required to construct the access. However, as the Project is expected to extend over 10 years (at a greatly reduced level of activity), and the currently ongoing slop oil remediation could take longer than that, there is the potential for the current OTD to expire before a subsequent use is proposed or permitted.

According to Section 23.04.420 of the CZLUO, new coastal access is required “in new development projects” and includes the activities under the P66 Demolition and Remediation Project. The Project would not impede coastal access. However, as remediation associated with the Project is expected to extend over 10 years (at a greatly reduced level of activity), there is the potential for the current OTD to expire before a subsequent use is proposed or permitted.

According to Section 23.04.420 of the CZLUO, new coastal access is required “in new development projects”. With no direct shoreline, the Phillips 66 property does not currently prevent

4.14 Recreation and Coastal Access

or impede public access to the coast, and the Project consists of demolition and remediation of a facility rather than an intensification of use or a new use. The Project would result in removal of structures and ultimately in a significant reduction of activity. Impacts associated with the Project do not generate a sufficient nexus and are not proportional to the costs necessary to construct vertical trail access, particularly in light of the bisecting railroad ROW which requires design and construction of an under- or over-pass to create such access. Furthermore, the ODSVRA would need to plan for a point of connection into the Park from the Phillips 66 trail access, which would terminate at the shared property line over a mile from the shore.

Although coastal access is required for new development, the policy consistency for this Project is not a CEQA impact as no intensification or continuation of use is proposed. Staff will address the policy through Project conditions of approval by including a Project condition for the decision makers to consider with the findings and conditions, that the duration of the existing OTD be amended to extend in perpetuity. When the Project site is proposed for a new land use and/or development, the provision of coastal access across the site would be required. Therefore, the Project would not result in the development of new recreational facilities with the potential to have an adverse physical effect on the environment, and no impacts would occur. Impacts would be **less than significant (Class III)**.

4.14.6 Mitigation Measure Impacts to Other Issue Areas

As no mitigation measures are proposed for recreation and coastal access, there would not be any impact from the mitigation measures on other issue areas.

4.14.7 Cumulative Impacts

Existing and foreseeable future projects within the Project region are identified in Chapter 3.0, Cumulative Study Area.

As discussed in Section 4.14.5 above, the Project could generate a minor increase in park and recreation facilities users resulting in a less than significant increase in demand on local recreational resources because there is adequate existing community parkland per Nipomo resident. Several proposed development projects in the Project vicinity would result in additional population growth and increased demand on local and regional recreational facilities. However, recreational development projects are also proposed in the Project vicinity, including, but not limited to, development of an 11-acre public park and pedestrian, bicycle, and equestrian trails associated with the Dana Reserve Specific Plan. Other reasonably foreseeable future development projects would be subject to the payment of Quimby Fees and Public Facilities Fees to the County to provide funding for construction of capital projects and maintenance of existing facilities. Other reasonably foreseeable future projects would also be subject to subsequent environmental review to determine if individual projects would result in physical deterioration of existing parks or other recreational facilities or result in potential adverse physical effects on the environment. Therefore, impacts would be less than cumulatively considerable.

The Project would not result in the need for development of new recreational facilities with the potential to have an adverse physical effect on the environment. Reasonably foreseeable future

projects that include the development of recreational facilities would be subject to environmental review and would be required to implement mitigation measures to reduce any potential short- or long-term environmental impacts that may result from the development of new parks and/or recreation facilities. Therefore, cumulative impacts associated with the Project would be less than significant.

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4.15 Transportation

This section examines the effects of the Project on the transportation systems in the area. It not only considers circulation conditions but also investigates potential impacts on intersections and roadways. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

As described in Chapter 2.0, Project Description, the Project would include the demolition of aboveground infrastructure and remediation of the site, followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

4.15.1 Environmental Setting

4.15.1.1 Background

The Santa Maria Refinery (SMR) has been a petroleum oil refinery since its construction in 1955. The SMR is linked to the San Francisco-area Rodeo Refinery by a 200-mile pipeline through which semi-refined liquid products are transferred for upgrading into finished petroleum products. The SMR also produces solid petroleum coke that leaves the SMR by rail or haul truck and recovered sulfur that is transported by haul truck. The SMR is currently surrounded by industrial, recreational, agricultural, residential, and open space land uses. Except when shut down for maintenance, the SMR operates 24 hours per day, 365 days per year.

Phillips 66 has discontinued receiving and processing crude oil at the SMR as of January 2023, and is conducting shut-down and decontamination activities at the facility under separate existing permits. As described in Chapter 2.0, Project Description, the Project would include the aboveground demolition and remediation of the site followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation. Potential future uses of the SMR site are unknown and are currently speculative; therefore, future uses are not considered in this Project.

The Project is on a portion of the Phillips 66 SMR property located at 2555 Willow Road in Arroyo Grande, California. Surrounding land uses include undeveloped land, Oceano Dunes State Vehicular Recreation Area (ODSVRA), Highway 1, residential communities, and California Department of Forestry and Fire Protection (CAL FIRE) Station 22.

4.15.1.2 Existing Vehicle Circulation Conditions

SMR traffic accessing U.S. Highway 101 from the Project site uses the following route: State Route 1 to Willow Road east to the Willow Road/U.S. Highway 101 interchange. SMR employees

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and contractors living in the Guadalupe, Oceano, and Grover Beach areas would likely access the site via State Route 1.

The number of crude oil, sulfur, and petroleum coke trucks entering the SMR during the baseline period (2017–2021) averaged 37 trucks per day, excluding chemical deliveries (which typically average about five deliveries per month) or waste disposals. Daily trip data for the baseline period are provided in Appendix C.

The on-site workforce has varied during the baseline period (2017–2021). The combined number of Phillips 66 employees plus full-time equivalent contractors ranged from a low of 141 in 2021 to a high of 197 in 2019, with approximately 40 on-site employees on weekends. Typically, two security personnel are present during nights and weekends. General refinery employees include office staff, operators, supervisors, and maintenance technicians.

State Route 1 from the SMR entrance north to Halcyon Road is primarily a north-south, two-lane arterial; portions of the roadway have a median turning lane near certain intersections. State Route 1 from the SMR entrance east to Willow Road (local) is an east-west, two-lane arterial. State Route 1 south of Willow Road is a north-south, two-lane arterial. Stretching from Willow Road south to W. Clark Avenue, State Route 1 is locally known as Guadalupe Road. It becomes Cabrillo Highway south of the town of Guadalupe and Casmalia Road south of Black Road.

Willow Road is a County of San Luis Obispo (County)-managed, east-west, two-lane minor arterial with access from the Project site via State Route 1. The intersection at Willow Road and State Route 1 is controlled by a stop sign on Willow Road. The Willow Road extension, completed in late 2012, provides a full access interchange at U.S. Highway 101 and extends Willow Road to N. Thompson Avenue. Willow Road is the County-designated truck route from the SMR to U.S. Highway 101.

Pomeroy Road is a County-managed, north-south, two-lane collector road with access from the Project site via Willow Road. The intersection at Pomeroy Road and Willow Road is controlled by a stop sign on Willow Road.

U.S. Highway 101 is a four- to six-lane highway that extends along the Pacific Coast between Los Angeles and San Francisco.

An unpaved pipeline maintenance road exists between the SMR property and sand dunes within the ODSVRA. This maintenance road is gated at the Phillips 66 property line, and Phillips 66 has no control over the railroad crossing.

4.15.1.3 Rail Traffic Conditions

The Union Pacific rail lines access the SMR property via the Union Pacific Coast Line, which runs from San Jose to Moorpark. Union Pacific operates freight rail services along this line, providing service that roughly parallels the U.S. Highway 101 corridor between San Jose in the north, and Camarillo in the south. Trains servicing the SMR property use various Union Pacific tracks that are shared with a number of intercity passenger rail lines. Historically, the SMR property generated

petroleum coke railcars, which were hauled weekly by a Union Pacific train delivering empty cars and hauling loaded cars (see Chapter 2.0, Project Description).

Coast Starlight and Pacific Surfliner

The Coast Starlight is a Federal Amtrak train that runs between Los Angeles and Seattle. The Coast Starlight operates one round-trip per day. This passenger train makes two stops in the County (City of San Luis Obispo and Paso Robles). Both of these trains use Union Pacific Railroad (UPRR) track and would share a considerable distance of UPRR track with a train traveling to the SMR.

The Pacific Surfliner is a California Amtrak train that operates between San Diego and San Luis Obispo. The Pacific Surfliner operates two round-trips per day between San Diego and San Luis Obispo, three round-trips between San Diego and Goleta, and eight round-trips between Los Angeles and San Diego. This passenger train makes two stops in the County (City of San Luis Obispo and Grover Beach).

4.15.1.4 Methods of Describing Transportation Conditions

Level of Service

Transportation conditions are often described in terms of levels of service (LOS). LOS describes the existing volume of traffic on a roadway compared to the design capacity of the roadway. The design capacity of a roadway or intersection is defined as the maximum rate of vehicle travel (e.g., vehicles per hour) that can reasonably be expected along a section of roadway or through an intersection. Capacity depends on several variables, including road classification and number of lanes, location and presence of turning lanes, signal timing, road condition, terrain, weather, and driver characteristics. LOS is generally a function of the ratio of traffic volume to the capacity of the roadway or intersection or the delays associated with an intersection. The LOS ratings also use qualitative measures that characterize operational conditions within a traffic stream and their perception by motorists. These measures include freedom of movement, speed and travel time, traffic interruptions, types of vehicles, comfort, and convenience.

Trucks and intersections also affect LOS classifications. Trucks and other large, heavy vehicles or slower moving vehicles affect LOS because they occupy more roadway space and have reduced operating qualities compared to passenger cars. Since heavy vehicles accelerate slower than passenger cars, gaps form in traffic flows that affect the efficiency of the roadway. Intersections present several variables that can influence LOS, including curb parking, transit buses, turn lanes, signal spacing, pedestrians, stop sign arrangements, and signal timing.

In 2021, the California Department of Transportation (Caltrans) reported average annual daily traffic (AADT) of 8,000 on State Route 1 near the Project driveway. This is well below the capacity of the roadway.

The LOS for intersections is based on the 6th Edition of the Highway Capacity Manual (TRB 2017) and are generated based on the delay at the intersection (expressed in seconds) and the number of vehicles that back up at an intersection for each traffic light cycle. Table 4.15.1 provides peak hour delay, number of vehicles and LOS for existing Project conditions along the Willow Road corridor based on data collected in 2018 at a time when the SMR was in full operation.

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Table 4.15.1 Existing Traffic Level of Service for Project-Related Roadway Intersections

Intersection	Peak Hour	Delay seconds seconds (vehicles)	LOS
Willow Road/State Route 1	AM	4.9 (12.4)	B
	PM	4.4 (13.4)	B
Willow Road/Pomeroy Road	AM	20.8	C
	PM	21.2	C
Willow Road/Hetrick Avenue	AM	4.2 (31.2)	D
	PM	1.8 (17.7)	C
Willow Road/U.S. 101 SB Ramps	AM	2.2 (12.8)	B
	PM	4.5 (12.7)	B
Willow Road/U.S. 101 NB Ramps	AM	32.1 (181.0)	F
	PM	8.6 (18.9)	C

Source: County 2021b

Vehicle Miles Traveled

California Office of Planning and Research, California Environmental Quality Act

The State California Environmental Quality Act (CEQA) Guidelines discuss use of the LOS methodology for transportation analyses in CEQA documents. In response to Senate Bill 743, in December 2018, the California Natural Resources Agency certified and adopted CEQA Guideline updates that implement changes to the methodology used to assess traffic impacts in CEQA documents. The Guidelines require an alternative to LOS for evaluating transportation impacts by enhancing or replacing the typical LOS analysis with a vehicle miles traveled (VMT) analysis. These changes include elimination of auto delay, LOS, and other similar measures of vehicular capacity or traffic congestion as a basis for determining significant impacts.

The CEQA Guidelines update states that “[a] lead agency may elect to be governed by the provisions of this section immediately. Beginning on July 1, 2020, the provisions of this section shall apply statewide” (CEQA Guidelines §15064.3 (d)).

CEQA Section 15064.3

This update to CEQA, effective December 28, 2018, codifies a switch from LOS to VMT as the metric for transportation impact analysis.

This section describes specific considerations for evaluating a project’s transportation impacts. Generally, VMT is the most appropriate measure of transportation impacts. For the purposes of this section, “vehicle miles traveled” refers to the amount and distance of automobile travel attributable to a project. Other relevant considerations may include the effects of the Project on transit and non-motorized travel. Except as provided in subdivision (b)(2) below (regarding roadway capacity), a project’s effect on automobile delay shall not constitute a significant environmental impact.

Section 15064.3 (b) provides the criteria for analyzing transportation impacts:

- (1) Land Use Projects. Vehicle miles traveled exceeding an applicable threshold of significance may indicate a significant impact. Generally, projects within one-half mile of either an existing major transit stop or a stop along an existing high-quality transit corridor should be presumed

to cause a less than significant transportation impact. Projects that decrease vehicle miles traveled in the project area compared to existing conditions should be presumed to have a less than significant transportation impact;

- (2) **Transportation Projects.** Transportation projects that reduce, or have no impact on, vehicle miles traveled should be presumed to cause a less than significant transportation impact. For roadway capacity projects, agencies have discretion to determine the appropriate measure of transportation impact consistent with CEQA and other applicable requirements. To the extent that such impacts have already been adequately addressed at a programmatic level, such as in a regional transportation plan EIR, a lead agency may tier from that analysis as provided in Section 15152;
- (3) **Qualitative Analysis.** If existing models or methods are not available to estimate the vehicle miles traveled for the particular project being considered, a lead agency may analyze the project's vehicle miles traveled qualitatively. Such a qualitative analysis would evaluate factors such as the availability of transit, proximity to other destinations, etc. For many projects, a qualitative analysis of construction traffic may be appropriate; and
- (4) **Methodology.** A lead agency has discretion to choose the most appropriate methodology to evaluate a project's vehicle miles traveled, including whether to express the change in absolute terms, per capita, per household or in any other measure. A lead agency may use models to estimate a project's vehicle miles traveled and may revise those estimates to reflect professional judgment based on substantial evidence. Any assumptions used to estimate vehicle miles traveled and any revisions to model outputs should be documented and explained in the environmental document prepared for the project. The standard of adequacy in Section 15151 shall apply to the analysis described in this section.

The Governor's Office of Planning and Research (OPR), Technical Advisory on Evaluating Transportation Impact in CEQA with the new VMT requirement states the following: "For the purposes of this section, 'vehicle miles traveled' refers to the amount and distance of automobile travel attributable to a project." Here, the term "automobile" refers to on-road passenger vehicles, specifically cars and light trucks (OPR 2018). OPR also indicates that "absent substantial evidence otherwise, it is reasonable to conclude that the addition of 110 or fewer trips could be considered not to lead to a significant impact" (OPR 2018).

The San Luis Obispo Council of Governments' (SLOCOG) Regional Transportation Plan (RTP; SLOCOG 2023) reports annual VMT per capita within the County, noting that the metric is closely aligned with economic conditions and was heavily affected by COVID-19. SLOCOG estimates that the countywide VMT per capita was 27.9 in 2020.

Roadway Safety

Roadway safety is typically quantified as a collision rate per million vehicle miles on a roadway segment or collisions per million entering vehicles for an intersection. Collision data is compiled and processed in the Statewide Integrated Traffic Records System (SWITRS). Caltrans maintains the Traffic Accident Surveillance and Analysis System (TASAS), a database of collisions on the State Highway system.

Railroad Congestion

The on-time performance (OTP) of the Coast Starlight and Pacific Surfliner historically provides a measure of railroad congestion. The end point OTP measures how a train actually performs compared to the published schedule at the last station on the run. The metric uses the actual departure time at the origin point of the train and the actual arrival time of the train at the last stop for the reporting period. As per the Federal Railroad Association (FRA 2023), the percentage of time the trains were on-time over the reporting period for all stations met the target (80 percent) OTP for the Pacific Surfliner in 2014 (at 86 percent; FRA 2014) but deteriorated to just under the threshold in 2023 (79 percent). For the Coastal Starlight, the OTP did not meet the target for all stations criteria in 2014 (50 percent) but improved in 2023 (to 62 percent).

4.15.2 Regulatory Setting

4.15.2.1 Federal Regulations

The federal government delegates the responsibilities of the maintenance and regulation of roadways to state and local governments.

The Federal Railroad Administration (FRA) is responsible for regulating the safety of the Nation's railroad system and development of inter-city passenger rail. The FRA's mission is to enable the safe, reliable, and efficient movement of people and goods. The Rail Safety Improvement Act of 2008 (RSIA) directed the FRA to, among other things, promulgate new safety regulations. These new regulations govern different areas related to railroad safety, such as hours of service requirements for railroad workers, positive train control implementation, standards for track inspections, certification of locomotive conductors, and safety at highway-rail grade crossings.

The Passenger Rail Investment and Improvement Act of 2008 (PRIIA) reauthorized the National Railroad Passenger Corporation, better known as Amtrak, and strengthens the U.S. passenger rail network by tasking Amtrak, the U.S. Department of Transportation (U.S. DOT), the FRA, states, and other stakeholders in improving service, operations, and facilities. PRIIA focuses on inter-city passenger rail, including Amtrak's long-distance routes and the Northeast Corridor (NEC), state-sponsored corridors throughout the Nation, and the development of high-speed rail corridors.

4.15.2.2 State Regulations

California Department of Transportation

Caltrans maintains the state highway system, including U.S. Highway 101, State Route 166, and State Route 1, which provide access to collector, access, and local roads in the SMR area. Caltrans generally regulates maximum load limits for trucks and safety requirements for oversized vehicles for operation on highways.

California Public Utilities Commission

The California Public Utilities Commission (CPUC) is the state agency charged with ensuring the safety of freight railroads, inter-city and commuter railroads, and highway-railroad crossings in

the State of California. CPUC performs these railroad safety responsibilities through the Railroad Operations and Safety Branch (ROSB) of the Safety & Enforcement Division.

ROSB's mission is to ensure that California communities and railroad employees are protected from unsafe practices on freight and passenger railroads by enforcing rail safety rules, regulations, and inspection efforts; and by carrying out proactive assessments of potential risks before they create dangerous conditions. ROSB personnel investigate rail accidents and safety related complaints, and recommend safety improvements to the CPUC, railroads, and the federal government as appropriate.

The Public Utilities Code requires the CPUC to conduct focused inspections and regular inspections of all railroad and light rail transit operations in the State. The Public Utilities Code also requires the CPUC to conduct investigations of all rail accidents occurring within the State resulting in loss of life or injury to person or property. These investigations are conducted alongside the National Transportation Safety Board. The California Local Community Rail Security Act of 2006 requires every operator of rail facilities in the State to submit a risk assessment to the CPUC and the California Emergency Management Agency (CEMA) that identifies potential hazards and emergency response procedures. The Act also requires rail operators to develop and implement an infrastructure protection program, updated annually, to protect their rail facilities from acts of sabotage, terrorism, or other crimes (Caltrans 2013).

California Office of Planning and Research, California Environmental Quality Act

Creating new metrics for transportation analysis was one of the main goals of SB 743. It was signed with the intent to “more appropriately balance the needs of congestion management with statewide goals related to infill development, promotion of public health through active transportation, and reduction of greenhouse gas emissions” and required the OPR to identify new metrics for identifying and mitigating transportation impacts within CEQA. As a result, in December 2018, the California Natural Resources Agency certified and adopted updates to the State CEQA Guidelines. The revisions included new requirements related to the implementation of SB 743 and identified VMT per capita, VMT per employee, and net VMT as new metrics for transportation analysis under CEQA (as detailed in Section 15064.3[b]). Beginning July 1, 2020, the newly adopted VMT criteria for determining significance of transportation impacts was implemented statewide.

SB 743 modifications, which are now in effect, change the focus of transportation impact analysis in CEQA from measuring impacts to drivers, to measuring the impact of driving. The change replaces LOS with VMT and provides a review of land use and transportation projects that will help reduce future VMT growth. In October 2020, the County published Transportation Impact Analysis Guidelines that focus on VMT.

Collision Analysis

Statewide Integrated Traffic Records System

This database provides detailed information about collisions that have been reported by the local police department. Collisions for all vehicles were evaluated from 2018 through 2022 at the intersection and links within the study area.

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There were 11 collisions reported on State Route 1 (Willow Road) within 0.3 miles of the Project driveway. Two were fatal, one was reported as severe injury, six collisions had visible injuries, and two collisions had complaints of pain. Of these reported collisions, three were head-on, two were rear end, one was broadside, one was a collision with a fixed object, three vehicles overturned, and one collision was between a vehicle and pedestrian.

Traffic Accident Surveillance and Analysis System (TASAS)

Table 4.15.2 shows the collisions reported within 250 feet of the Project driveway and compares the actual collision rates to average collision rates for similar facilities. The Project driveway's fatal and injury collision rates are well below the statewide average for similar facilities, as are the total collision rates.

Table 4.15.2 TASAS Collision Rate Summary

PM	Intersection Description	No. of Collisions ⁽³⁾			Actual Collision Rate (per million vehicles)			Average Collision Rate (per million vehicles)		
		F	I	Total ⁽¹⁾	F	F+I	Total ⁽¹⁾	F	F+I	Total ⁽¹⁾
6.392	SR 1 at Santa Maria Refinery	0	2	4	0.00 ⁽²⁾	0.14 ⁽²⁾	0.29 ⁽²⁾	0.015 ⁽²⁾	0.30 ⁽²⁾	0.65 ⁽²⁾

Notes: Total collisions shown include Property Damage Only (PDO). Actual and Average collision rates have been adjusted to reflect spot locations for segments less than 0.5 miles. Collisions rates are from 10/1/2017 to 9/30/2022. Source: Caltrans 2023

4.15.2.3 Local Regulations

San Luis Obispo Council of Governments

SLOCOG is a joint powers authority with a goal of facilitating cooperative regional and subregional planning, coordination, and technical assistance on issues of mutual concern. SLOCOG is the designated Regional Transportation Planning Agency and thereby responsible for all regional transportation planning and programming activities, including developing the RTP. The RTP guides transportation policy and is updated every five years. The 2023 RTP describes the County's long-term transportation and sustainability plan; it applies future transportation and housing needs to current legislation, both in terms of land use and greenhouse gas emissions (SLOCOG 2023).

The SLOCOG 2023 RTP establishes the following vision for the County's transportation system: "A fully integrated, intermodal, transportation system that facilitates the safe and efficient movement of people, goods, and information within and through the region." The RTP chose individual pillars to support this overarching vision, and the goals outlined align with state and federal transportation planning regulations. The following list provides the pillars, goals, and policies that will go into improving the transportation system.

- **Infrastructure:** Maintain and improve the efficiency of the existing transportation system. Employ low-cost solutions to transportation demand management and increase infrastructure resiliency to the environment.

- **Mobility:** Improve intermodal mobility and accessibility for all people. Provide reliable, flexible travel choices between modes and improve accessibility to housing, jobs, and services.
- **Economy:** Support a vibrant, resilient economy. Support transportation investments to enhance economic activity and tourism, improve the freight network across the nation, and support equitable, sustained economic growth.
- **Safety:** Improve public safety and security. Reduce fatalities, serious injuries, and congestion on the transportation system. Improve emergency preparedness, response, and recovery on the system.
- **Healthy communities:** Foster livable and healthy communities and promote equity. Expand access to healthy transportation options, increase supply and variety of housing, jobs, and basic services to reduce trips and travel distances, and reduce transportation burdens for underserved communities.
- **Environment:** Protect and enhance the environment. Conserve natural, sensitive resources, preserve historic, cultural, and aesthetic resources. Improve air quality and greenhouse gas emissions from transportation.
- **Fiscal responsibility:** Invest strategically to optimize the transportation system, continual involvement by all stakeholders, and seek sustainable, competitive funding to maintain and improve the existing system.

In addition to highway and road goals, the RTP outlines rail-oriented strategies to improve the existing transportation network. These are provided below.

- Increase the frequency, reliability, and convenience of inter-city passenger rail services and the amenities needed for comfortable and convenient travel.
- Continue to support acquisition of sufficient equipment and construction of necessary improvements to offer services between San Francisco and Los Angeles along and through the Coast Route.
- Support efforts to maintain or expand the level of railroad passenger service, the acquisition of rolling stock and the rehabilitation/upgrade of railways along the Coast Route between Los Angeles and San Jose.
- Minimize street, road and highway conflicts with railroad facilities by encouraging grade separated crossings, safety gates, and closing at-grade facilities where possible and discouraging intensification of vehicles at existing at-grade facilities.
- Do not support the establishment of any additional at-grade rail crossings.
- Support capital improvement projects that improve safety for pedestrians and bicyclists at uncontrolled crossing points along the rail line including the construction of pedestrian and bicycle bridges in high conflict areas.
- Construct rail transportation facilities to accommodate projected growth, including: additional rail layover facilities; industrial spurs where appropriate; and station improvements where needed.

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- Continue to facilitate rail improvements with other transportation agencies in the Coast Rail Coordinating Council along the Coast Route Rail Line to ensure the continuation and improvement of passenger rail services.
- Identify, prioritize, and program major improvements as identified in the California's Passenger Rail System.
- Support additional federal and state funding for inter-city rail and capital operating costs, including trackage, other signal improvements and grade crossing improvements.
- Encourage no idling zones (and "Quiet Zones") for locomotives near residential neighborhoods and facilitate a reduction of rail transportation conflicts with other land uses.
- Support capital improvements that facilitate "higher," (i.e., 79–125 mph) speed rail service on the corridor, including; installation of centralized and improved traffic signal control, curve realignments, double-tracking, extension of existing and new passing sidings, grade improvements, on-time performance payments, positive train control and new train technologies.

County of San Luis Obispo General Plan

The Circulation Element, which is part of the Land Use Element in the County General Plan, includes the following goals and objectives (County 2021a):

- Provide a land use pattern and rate of population growth that will not exceed the financial ability of the county and its residents to expand and maintain the circulation system;
- Plan transportation system improvements to provide for, but not exceed, the demand of visitors and permanent residents. These improvements should be consistent with the land use patterns allowed by both the land use element and the cities' general plans, so that growth is not facilitated or induced in inappropriate amounts or locations;
- Coordinate the transportation systems between different modes of travel, sensitive to the needs and desires of citizens in a manner that will provide an optimum benefit for the investment of public funds;
- Recognize public transit and carpooling as very important components of the county's strategy to provide adequate circulation and to reduce dependency on the automobile;
- Develop and coordinate transportation programs that reinforce federal, state, regional and local agency goals;
- Design a transportation system that provides safe travel within attainable, feasible economic and technical means;
- Design transportation facilities with the intent to preserve important natural resources and features, promote the aesthetic quality of the region, and minimize environmental changes;

- Develop and enhance a system of scenic roads and highways through areas of scenic beauty without imposing undue restrictions on private property, or unnecessarily restricting the placement of agricultural support facilities;
- Encourage policies for new development to finance adequate additional circulation and access as a result of the increased traffic it will cause; and
- Encourage new development to provide public transit access and pedestrian and bicycle pathways from residential areas to shopping areas, businesses and public facilities.

San Luis Obispo County Code

The County Code implements the General Plan and provides more specific criteria for development. Traffic regulations, including traffic control devices and turning movements, are articulated in the County Code, Title 15, Vehicles and Traffic. Title 23, Coastal Zone Land Use Ordinance, provides standards for proposed developments and new land uses to include parking, street, and frontage requirements. Title 13, Roads and Bridges – Streets and Sidewalks, establishes a road improvement fee to pay for road facilities and improvements related to new development. The County can offer a reimbursement agreement to a developer who constructs a road facility or improvement that exceeds the impact mitigation needs of the new development (County 2024).

4.15.3 Thresholds of Significance

According to Appendix G of the State CEQA Guidelines, traffic impacts would be considered significant if the Project would:

- a. Conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities;
- b. Conflict or be inconsistent with CEQA Guidelines § 15064.3, subdivision (b);
- c. Substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment); or
- d. Result in inadequate emergency access.

4.15.4 Impact Assessment Methodology

To ensure a comprehensive analysis, various data sources have been utilized, including the Caltrans, the County, baseline traffic conditions from nearby projects, as well as the SWITRS and the TASAS databases. By estimating VMT and trip generation values based on Project description data, a comparison can be made with baseline conditions to identify potential impacts.

4.15.5 Project-Specific Impacts and Mitigation Measures

This section discusses the impacts and any mitigation measures with the Project related to vehicular and rail transportation.

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Impact #	Impact Description	Residual Impact
TR.1	Thresholds a), b), and d): Would the Project vehicle trips conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities, result in inadequate emergency access or increase vehicle miles traveled as per CEQA Guidelines § 15064.3, subdivision (b)?	Class II

The Project would generate demolition traffic, with trucks transporting materials and debris from the site with employees and equipment accessing the site. Trucks would access the site via Willow Road and the U.S. Highway 101/Willow Road interchange. Willow Road is designated as a truck route by the County for the SMR.

As shown in Table 2.1, historical operations of the SMR averaged 37 truck trips per day and 141–199 employees per day. The historical operations generate more truck and employee trips than the Project’s maximum of 83 truck trips per week (less than 20 truck trips per day) and 45 employees per day described in Chapter 2.0, Project Description. The Project trips would also be below the OPR guidance of 110 trips per day (for employees only) (OPR 2018). The Project would be less impactful to roadway traffic operation than historical operations and would reduce VMT, which are roughly proportional to vehicular trips. As Project traffic would be below historical levels, and does not propose any changes to circulation infrastructure, it would also not conflict with ordinances or policies or result in inadequate emergency access. However, the temporal distribution of truck trips could change, potentially impacting traffic operations during peak hours of travel (7:00 a.m. to 9:00 a.m. and 3:00 p.m. to 6:00 p.m.). This is a potentially significant impact.

Mitigation Measures

TR.1-1 **Construction Traffic Management Plan:** Prior to issuance of demolition permits, the Applicant shall develop a Construction Traffic Management Plan for review and approval by County Department of Planning and Building, County Department of Public Works, and Caltrans. The plans shall include at least the following items:

1. A scheduling plan showing operational schedules to minimize traffic congestion during peak hours. The plan shall limit Project-related traffic to and from the SMR during the peak AM and PM hours. This plan shall note the schedule for completing various demolition and remediation activities. The plan shall show the hours of operation to minimize traffic congestion during peak hours;
2. Willow Road shall be used for truck deliveries to and from the SMR;
3. Monitoring program for street surface conditions so that damage or debris resulting from construction of the Project can be identified and corrected by the Applicant;
4. A traffic control plan showing proposed temporary traffic control measures, if any; and
5. A delivery schedule for construction materials and equipment.

Submittal Timing: Prior to County permit issuance. **Approval Trigger:** Issuance of County permit. **Responsible Party:** The Applicant or designee. **What is required:**

Submittal of a Construction Traffic Management Plan. To whom it is submitted and approved by: Caltrans, County Department of Public Works, and County Department of Planning and Building.

Residual Impacts

The preparation and implementation of an adequate construction traffic management plan which would, among other requirements, limit Project-related traffic during peak hours, reducing impact TR.1 to **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
TR.2	Threshold a): Would Project train trips conflict with a program, plan, ordinance or policy addressing the circulation system, including transit, roadway, bicycle and pedestrian facilities?	Class III

Table 4.15.3 shows that a minimal number of trains would be used during the eight-month aboveground demolition phase. The bulk of the waste would be transported by truck. Rail transportation would be limited to approximately one train (up to three to four rail cars of asbestos) during the duration of the aboveground demolition.

For remediation, impacted soil would be hauled by rail to a waste facility in Utah. As shown in Table 4.15.3, during the remediation phase, a total of 1,520 rail cars per year would be used to transport contaminated soil. This equals approximately 15.8 trains per month and 192 trains a year. To move the total quantity of estimated contaminated soils would take about 1,800 rail cars (assuming five percent by truck), or about 1.3 years at this rate. However, the rate of rail car movement is expected to slow after the peak quarter as remediation efforts decline, with some rail car movement expected at lower rates over a period as long 10 years.

Table 4.15.3 Train Trips Summary

Period	Total Rail Cars	Total Trains	Duration, months	Trains per Month Average
Aboveground demolition	3-4	1	8	< 1
Remediation	1520 per year	192 per year	12	15.8
Historical Trains	416 per year	52 per year	12	4.3
Rail Spur Analysis	NA	250 per year	12	20.8

Notes: Based on 8 cars per train as per Applicant air quality submissions, peak quarter based on Applicant air quality submissions, see Appendix C. Remediation rail cars would continue at the levels above or lower until remediation is completed.

While the Project's impacted soil transport would continue to Utah, the most heavily traveled passenger rail portions of the route are in California, and in particular the Pacific Surfliner and Coast Starlight passenger trains that run along the coastline. A 2013 study by Caltrans concluded that the addition of one passenger train round trip per day and two freight trains per day would not affect the OTP of the Coast Starlight (Caltrans 2013). This finding was consistent with the Phillips 66 Rail Spur Project EIR (County 2015) analysis that found a project that would generate up to 250 trains per year shipping oil products, or about 20.8 trains per month, would not impact the

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OTP of the passenger trains. Although the studies are dated, the OTP of the passenger trains since 2014 has been similar to the OTP in 2023. As stated previously, OTP provides a measure of railroad congestion. Since the Project would generate fewer rail trips than the Rail Spur Project, and only for a temporary period, the Project’s impact on public rail transit facilities would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
TR.3	Threshold c): Would the Project substantially increase hazards due to a geometric design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	Class III

The Project would not change the arrangement of roadways and would not involve the transportation of over-sized loads or materials. Truck traffic would be similar to historical truck traffic at the SMR. Caltrans data (see Table 4.15.2) indicates that the area of Highway 1 near the SMR experiences lower than average accident rates. The Project would not introduce hazardous design features and would not introduce incompatible uses to the roadways. Therefore, Project impacts on roadway safety would be **less than significant (Class III)**.

4.15.6 Mitigation Measure Impacts to Other Issue Areas

Mitigation measure TR.1-1, Construction Traffic Management Plan, would not generate impacts in other issues areas and would be limited to management of truck traffic.

4.15.7 Cumulative Impacts

The proposed developments in the cumulative project lists (see Chapter 3.0, Cumulative Study Area) would result in minimal impacts on the Project area roadways during the timeframe of the demolition and remediation activities. The most intense traffic generating Project in the area is the Dana Reserve Specific Plan, which is forecast to add fewer than 15 peak hour trips to Highway 1 south of Willow Road at full buildout. Construction of the Dana Reserve development project is planned to occur from 2024–2029, with full buildout occurring after the proposed peak demolition and remediation activities. Although some overlap of the Dana Reserve construction and with the Project would be expected, as the Project would not increase truck traffic over historical levels, the cumulative impact due to demolition and remediation activities for truck traffic would be less than significant.

For the Caballero Battery project, some construction would occur during Project construction, but construction would not be extensive and longer-term operational traffic trips would be minimal and would not generate cumulative impacts.

For the Monarch Dunes project, potential traffic levels would increase in the area due to the hotel, shops and homes. However, as the traffic associated with the Project would not exceed the historical traffic levels from the SMR, and, after construction, traffic levels would decrease, the cumulative impacts would be less than significant.

For the CalTrans and County Public Works traffic improvement projects, all of these projects would be improving the levels of service and operational characteristics of the area transportation network (drainage, etc.) and would therefore not generate long-term cumulative impacts. Short-term delays may occur with some of the projects while in the construction phase that could overlap with the Project construction activities, but as the Project levels of traffic would be equal to or below the historical levels, cumulative impacts would be less than significant.

For rail traffic, the Diablo Canyon Project would generate 83 rail cars over a six-year period (Diablo Canyon DEIR Table 2-7), totaling an average of about one rail car per month, which would be added to trains potentially traveling the same routes as the Project. However, the Diablo Canyon EIR (page 2-81) indicates that railcars “*would be added to scheduled trains with similar destinations*” and would therefore not generate additional train trips. Therefore, the cumulative impact due to demolition and remediation activities for rail traffic would be less than significant.

4.15.8 References

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4.16 Wildfire

This section discusses potential wildfire issues that could result from the Project. This section also describes the environmental setting, regulatory setting, identifies the applicable significance thresholds for wildfire impacts, assesses potential impacts of the Project, and recommends measures to mitigate any significant impacts, if applicable. The section also provides a discussion of cumulative impacts. Alternatives are discussed in Chapter 5.0, Alternatives.

Note that this section addresses the potential for the Project to impact issues that could exacerbate a wildfire, such as destabilizing slopes or affecting response capabilities to a wildfire. Section 4.9, Hazards and Hazardous Materials, addresses the potential for the Project to start a wildfire.

As described in Chapter 2.0, Project Description, the Project would include the demolition of aboveground infrastructure, and belowground infrastructure, where necessary, to allow for remediation of the site, followed by soil stabilization or revegetation of disturbed areas, with some minor long-term operations associated with remediation.

4.16.1 Environmental Setting

This section discusses the environmental setting for the Project consisting of the baseline and areas that could be affected by a wildfire at, or emanating from, the Project facilities. For baseline operations, the existing facility would be operating; therefore, risks of the Project are compared to the Santa Maria Refinery (SMR) operations, maintenance of equipment, and potential fires from equipment or vehicle traffic.

4.16.1.1 Area Communities and Environmental Resources

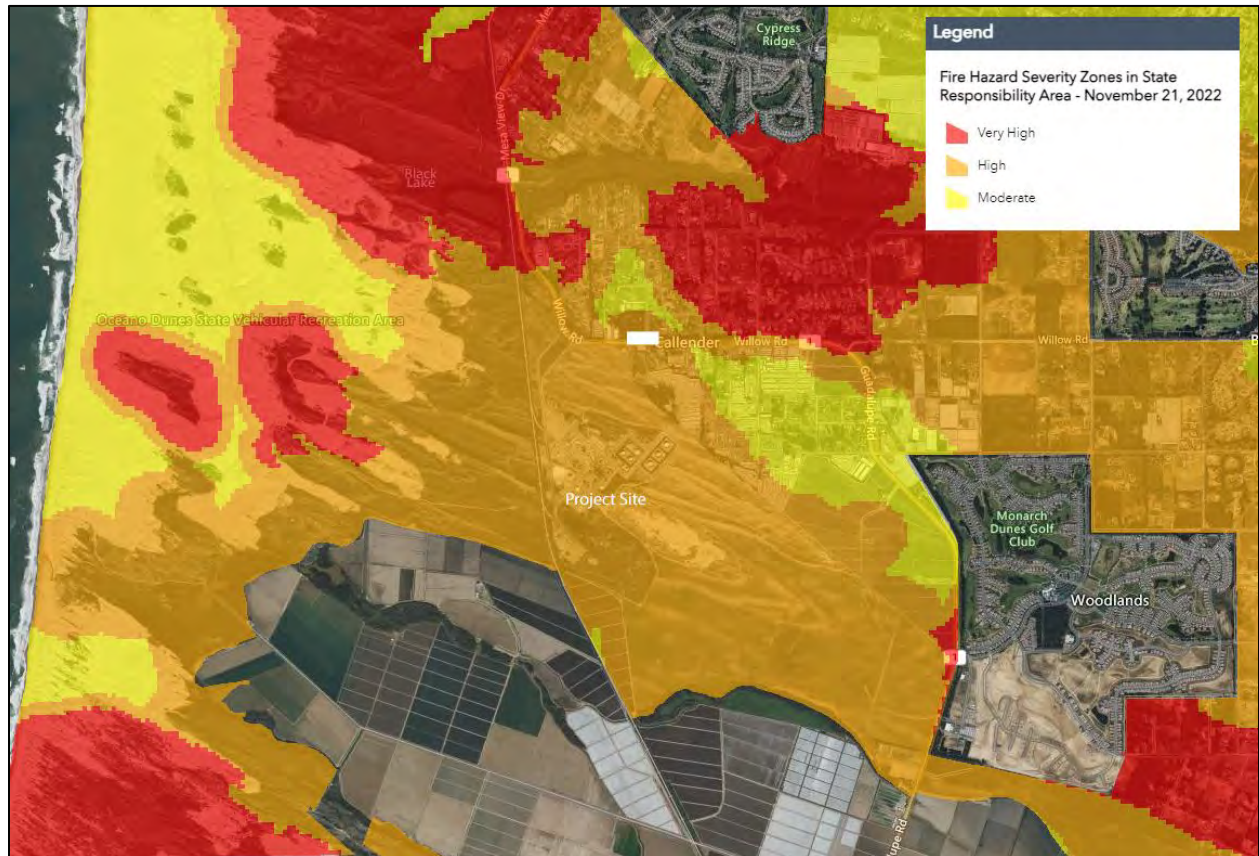
Environmental resources within the Project area residential communities located close to the facilities to the north and east of the SMR, commercial/industrial areas located to the east of the SMR, as well as agricultural areas to the south.

4.16.1.2 Wildfire Risk

The Project is located within a State Responsibility Area (SRA) but is not located within a Very High Fire Hazard Severity Zone (FHSZ). The closest Very High FHSZ is located to the north of the Project site, north and west of Willow Road about 1/3 mile north of the SMR entrance roadway. (OSFM 2023 currently undergoing regulatory review). Figure 4.16-1 shows the FHSZs associated with the Project area.

Although there are minimal and scattered trees located on the Project site, there are large stands of highly combustible eucalyptus trees located along the Project site boundary to the west, east and north. A California Department of Forestry and Fire Protection (CAL FIRE) fire station is located along Willow Road 1/3 mile to the east of the Project site.

Figure 4.16-1 Project Area Fire Hazard Severity Zones



Source: OSFM 2023

4.16.1.3 Refinery Operations

The SMR maintains an emergency response plan to ensure that in the event of a fire, hazardous material release, medical emergency, or rescue situation, personnel will be able to respond to the emergency quickly and effectively to minimize personal injuries, environmental damage, and/or property damage. The SMR has an existing firewater system, with a firewater loop, tanks, pumps, and suppression/deluge systems. More information is provided in Chapter 2.0, Project Description.

4.16.2 Regulatory Setting

4.16.2.1 State Regulations

Fire response systems and capabilities are discussed in Section 4.13, Public Services, Utilities and Service Systems. CAL FIRE is responsible for the management and protection of California's 31 million acres of SRA, within which the SMR is located. CAL FIRE provides direction for fire prevention and enforcement of the Public Resources Code (PRC) within the SRA using fire resource assessments, a variety of available data, mapping, and other tools. Pre-fire management activities, including prescribed burning, fuel breaks, forest health treatments, and removal of

hazardous vegetation, are conducted. CAL FIRE also leads fire prevention planning and inspection efforts; regulates buildings in which people live, congregate, or are confined; controls hazardous substances and products; and regulates hazardous liquid pipelines. It also delivers land use planning and defensible space inspection programs (CAL FIRE 2019).

Title 14 of the California Code of Regulations addresses the “SRA Fire Safe Regulations,” and constitutes the basic wildfire land fire protection standards of the California Board of Forestry and Fire Protection. Title 14 establishes minimum wildfire protection standards in conjunction with building, construction, and development in the SRA.

Title 19 establishes the California Office of the State Fire Marshal (OSFM), who oversees enforcement. Also, the Pipeline Safety Division of the OSFM has sole authority for the inspection and enforcement of federal and state regulations for intrastate pipelines within California. Federal authority is granted through an agreement with the U.S. Department of Transportation, Pipeline and Hazardous Materials Safety Administration (PHMSA).

Title 24 designates the OSFM as responsible for promulgating regulations that promote fire and life safety for inclusion into the State Building Codes including the California Building Code, California Fire Code, California Electrical Code, California Mechanical Code, California Plumbing Code, and California Historical Building Code. These documents are also referred to as California Code of Regulations, Title 24.

Section 4290, PRC regulations implement fire safety standards related to defensible space that are applicable to state responsibility area lands. The regulations include the following:

- Road standards for fire equipment access;
- Standards for signs identifying streets, roads, and buildings;
- Minimum private water supply reserves for emergency fire use; and
- Fuel breaks and greenbelts.

4.16.2.2 Local Regulations

Counties provide fire services at their discretion and service levels vary from county to county. The County of San Luis Obispo (County) chose to protect residents and property within its jurisdiction by creating County Fire in partnership with the CAL FIRE. The partnering and consolidation between County Fire and CAL FIRE are documented through contractual agreements that direct CAL FIRE/County Fire to provide fire protection and emergency response services and shared funding for the provision of such services. The County has an Emergency Operations Plan (County 2016) and a Hazardous Materials Emergency Response Plan (County 2013), both of which address a range of issues including organization, operations, recovery, and hazard assessments.

County General Plan Energy Element and Conservation and Open Space Element

In 1995, the County adopted the Energy Element as part of the County’s General Plan, subsequently merged with the Conservation and Open Space Element. The Conservation and Open

4.16 Wildfire

Space Element contains a goal of protecting public health, safety, and environment and several policies that promote the stated goal (County 2010). The applicable policies include:

- Policy 64. Guideline 64.1. To reduce the possibility of injury to the public, facility employees, or the environment, the Applicant shall submit an emergency response plan which details response procedures for incidents that may affect human health and safety or the environment. The plan shall be based on the results of the comprehensive risk analysis. In the case of a facility modification, the existing response plan shall be evaluated by the safety review committee and revisions made as recommended; and
- Flammable and Combustible Liquid Storage. County Coastal Zone Land Use Ordinance Section 23.06.126 includes requirements for flammable and combustible liquid storage relating to: applicability, permit requirements, limitation on use, limitation on quantity, setbacks, and including California Department of Forestry and Fire Prevention (CAL FIRE) recommendations, as applicable. Without approval through a Development Plan, aboveground storage limits of combustible liquid is 20,000 gallons and 2,000 gallons for flammable liquids.

4.16.3 Thresholds of Significance

The thresholds of significance for the Project are based on the State California Environmental Quality Act (CEQA) Guidelines Appendix G. In accordance with the CEQA Guidelines Appendix G, would the Project:

- a. Substantially impair an adopted emergency response plan or emergency evacuation plan;
- b. Due to slope, prevailing winds, and other factors, exacerbate wildfire risks, and thereby expose project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire;
- c. Require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment; or
- d. Expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?

4.16.4 Impact Assessment Methodology

The approach and methodology to address potential wildfire risks are to utilize the thresholds and examine each of the issues independently. Existing fire response capabilities and issues specific to construction are addressed, such as clearing and potential brush ignition. The agreements established with and comments from CAL FIRE/County Fire are reviewed to ensure proper fire risk issues have been developed.

4.16.5 Project-Specific Impacts and Mitigation Measures

Construction activities may involve clearing of materials, including brush, grasses, and trees that could be ignited by hot exhaust systems from construction equipment or sparks from welding activities, and could be a potential impact. Construction would involve the use of emergency generators, or other equipment including hot work, with hot exhausts that could potentially create sparks and start a wildfire if not sufficiently controlled or if the surrounding areas are not cleared of combustible materials.

Issues related to emergency response planning or emergency evacuation plans (Threshold (a)) are addressed in Section 4.9, Hazards and Hazardous Materials, impact HAZ.7.

Impact #	Impact Description	Residual Impact
WF.1	Threshold b): Would the Project, due to slope, prevailing winds, and other factors exacerbate wildfire risk and thereby expose Project occupants to pollutant concentrations from a wildfire or the uncontrolled spread of a wildfire?	Class II

As discussed in Section 4.9 (Hazards and Hazardous Materials) under impact HAZ.7, there is the potential for construction activities to generate sparks due to combustion equipment or hot work. These activities could spark a wildfire and thereby potentially impact nearby residential areas with fire and/or smoke issues. Mitigation described under impact HAZ.7 would address issues such as spark generation from combustion equipment during clearing, the performance of hot work protective measures, and ensuring that response capabilities are maintained through the Project. Without mitigation, impacts would be potentially significant.

Mitigation Measures

See impact HAZ.7 and mitigation measure HAZ.7-1 in Section 4.9, Hazards and Hazardous Materials.

Residual Impacts

Residual impacts would be **less than significant with mitigation (Class II)**.

Impact #	Impact Description	Residual Impact
WF.2	Threshold c): Would the Project require the installation or maintenance of associated infrastructure (such as roads, fuel breaks, emergency water sources, power lines, or other utilities) that may exacerbate fire risk or that may result in temporary or ongoing impacts to the environment?	Class III

The Project would not involve the installation of infrastructure that could exacerbate fire risks. The Project would involve keeping some infrastructure, such as the substation, power lines, guard house, and other equipment that would not present a fire risk above historical operations. The Project would also retain all of the road circulation within the site and the existing water supply wells. All the major fire risk equipment associated with the Refinery operations would be removed,

4.16 Wildfire

and as such, the long-term fire risks in the overall area would decrease compared with historical operations. Therefore, impacts would be **less than significant (Class III)**.

Impact #	Impact Description	Residual Impact
WF.3	Threshold d): Would the Project expose people or structures to significant risks, including downslope or downstream flooding or landslides, as a result of runoff, post-fire slope instability, or drainage changes?	Class III

The Project site final contours and surfacing generally maintains all drainage on site consistent with pre-Project stormwater historical practices. Therefore, in the event of a fire, any firefighting water runoff would be retained on site and would not present a risk of runoff from firefighting water and subsequent post-fire erosion instabilities or flooding. As indicated in Section 4.7, Geology and Soils, there is no risk of landslides at the site which could impact nearby residences, or slopes towards nearby residences that could experience subsequent landslides if the soil cover was burned in a fire. Therefore, impacts would be **less than significant (Class III)**.

4.16.6 Mitigation Measure Impacts to Other Issue Areas

Mitigation measure HAZ.7-1 involves fire response planning to ensure that any response to a fire at the facility would be effective and efficient and therefore would not have any impact on other issue areas.

4.16.7 Cumulative Impacts

Cumulative projects are discussed in Chapter 3.0, Cumulative Study Area. Cumulative projects are discussed in each of the categories below.

Ongoing SMR projects, including the Slop Oil Spill and the Northern Inactive Waste Site (NIWS) remediation projects and the remaining facilities off-site projects (Summit Pump Station and Santa Maria Pump Station), would continue remediation efforts or remove existing equipment and would not have a cumulative impact for wildfire risks.

Other projects in the area, such as the Arroyo Grande Oil Field, Caballo Battery project or the Dana Reserve development projects, or the Santa Barbara County projects, would entail development in the area and could contribute to increases in potential wildfire risks in the area. However, none of the other projects are located in close proximity where a wildfire could affect the same receptors. Therefore, a cumulative impact would not occur.

Roadway projects would not entail large wildfire risks and would therefore not produce cumulative impacts.

4.16.8 References

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- County. 2016. Emergency Operations Plan; revised December 2016. Available at: [https://www.slocounty.ca.gov/Departments/Administrative-Office/Office-of-Emergency-Services/Forms-Documents/General-Emergency-Plans/County-Emergency-Operations-Plan-\(EOP\).pdf](https://www.slocounty.ca.gov/Departments/Administrative-Office/Office-of-Emergency-Services/Forms-Documents/General-Emergency-Plans/County-Emergency-Operations-Plan-(EOP).pdf).

4.17 Issue Areas That Have No Impact

This section discusses the environmental issue areas found to have no impacts due to construction associated with the Project (State California Environmental Quality Act [CEQA] Guidelines Section 15128). The following issue areas are discussed: Mineral Resources and Population and Housing. These issue areas do not warrant a detailed discussion based upon the nature of the Project and/or its location.

4.17.1 Mineral Resources

The Santa Maria Refinery (SMR) site does not contain actively extracted sand, gravel, mineral, or timber resources, or active oil wells. The SMR is not located in an area with active mineral extraction activities. A review of the California Department of Conservation, Geologic Energy Management Division (CalGEM) field records indicates that no abandoned oil wells are located within the SMR's boundaries. The resources and materials used during construction would not include any materials that are considered rare or unique. As a result, no impacts on available mineral and energy resources are anticipated, and the Project would not result in an impact on the availability of a locally important mineral source.

4.17.2 Population and Housing

The Project would not result in any change in the population, housing, or employment that would exceed the adopted employment and population projections for the County of San Luis Obispo. No housing units would be affected by the Project, and no displacement of residents would occur. Proposed aboveground and belowground demolition and remediation activities would occur over a period of 18 months and remediation activities could occur up to 10 years. The Project would require up to 45 construction workers per day during the peak overlapping aboveground and remediation activities, and that would likely be sourced from the local employment force with a small portion of the workers expected to come from areas outside of the County due to the specialized nature of demolition and remediation of oil refinery facilities. The historical SMR had 141–197 average employees per day including contractors. The potential increased employment associated with the relatively short-term construction activities of the Project would be more than off-set by the number of jobs that were eliminated in recent years from the shut-down of the SMR over the long term. As a result, no impacts related to population or housing displacement would be expected.

Because of the large size of the construction work force available in California (estimated at over 850,000 by the U.S. Bureau of Labor Statistics (https://www.bls.gov/oes/current/oes_ca.htm, 2022), the temporary construction jobs are expected to be filled from the existing labor pool. Because the Project modifications would occur within an existing refinery located in a populated area, no additional housing would be necessary to accommodate the labor force needed during construction; therefore, no existing housing would be displaced.

4.17 Issue Areas That Have No Impact

4.18 Other Considerations

Other considerations include an analysis of potential sea level risk induced by climate change for the specific Project site. This issue is discussed below.

4.18.1 Climate Change and Sea Level Rise**Topography and Existing Site Conditions**

As discussed in Section 4.7, Geology and Soils, the active wastewater outfall line originates at the water effluent treatment (WET) plant and runs west through the Pismo/Oceano dunes for 2.0 miles to the shoreline and then terminates at a seafloor diffuser located 0.5 mile offshore in State Lands lease Public Resources Code (PRC) 1449.1, at a surveyed depth of approximately 38 feet below mean sea level. Inshore portions of the outfall line corridor lie beneath a zone of shallow sand bars and breaking waves (Figure 4.18-1). The nearshore environment features a broad sand beach, which is exposed to the prevailing northwesterly wind and swells (Tenera/Stantec 2023). Active sand dunes between the intertidal zone and the SMR consist of a series of parallel ridges generally aligned perpendicular to the prevailing west-northwesterly winds. The topography of the older dune sands, which comprise the sediments along the eastern portion of the outfall line, generally consists of broad west-northwest trending drainages and intervening broad ridges.

Sea Level Rise Scenarios

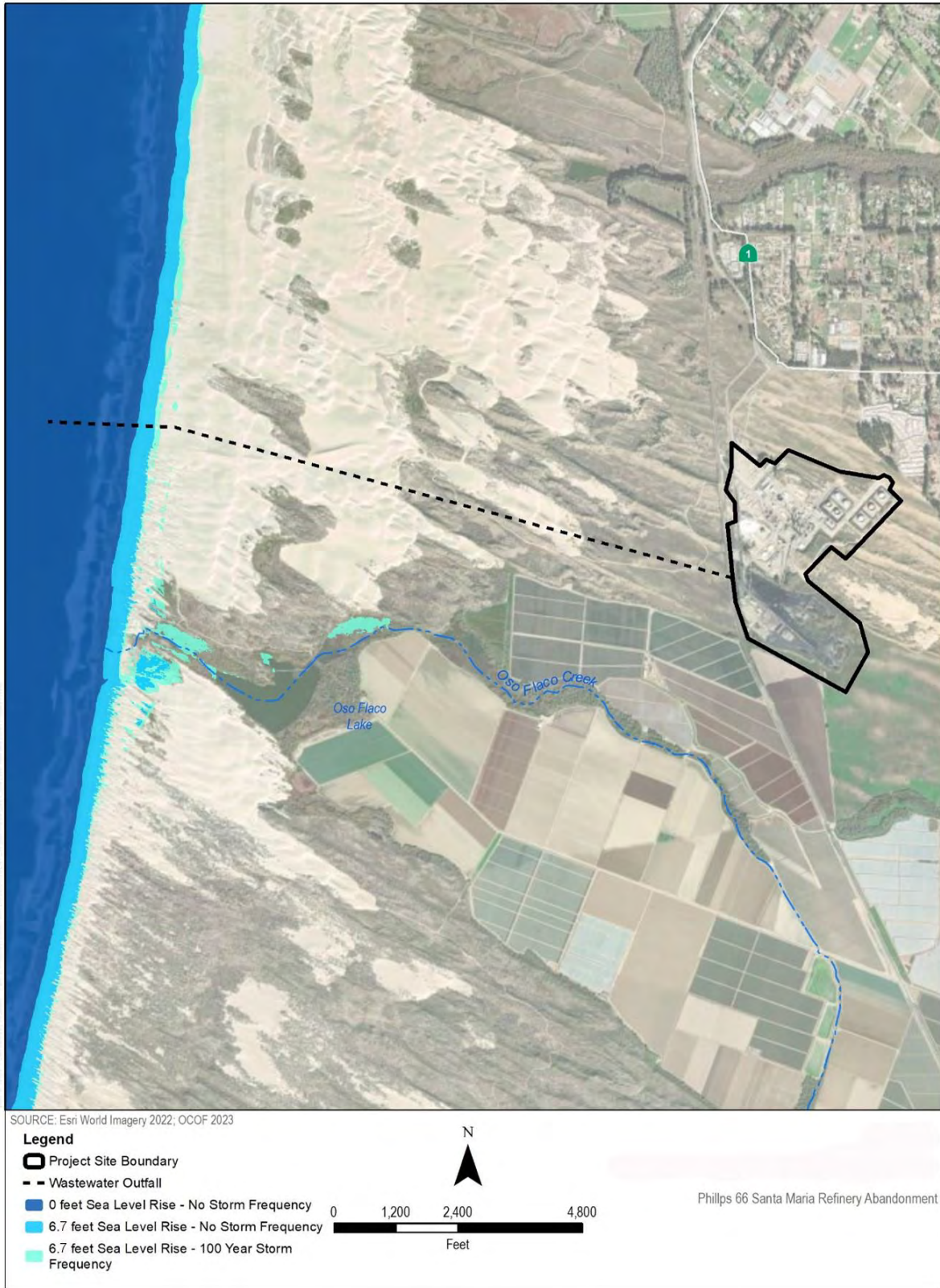
The rapid build-up of greenhouse gases (GHGs) from human activity, particularly carbon dioxide but also methane, nitrous oxide, and fluorinated gases, is causing global warming (change of global surface temperatures relative to the baseline period of 1850–1900) and climate disruption (IPCC 2021). Global atmosphere and ocean warming are leading to a complexity of global, regional, and local drivers of sea level rise (SLR). Global mean SLR from glacier mass loss and ocean thermal expansion is accelerating due to increasing rates of ice loss from the Greenland and Antarctic ice sheets (IPCC 2019; Oppenheimer and Glavovic 2019).

The State of California Sea level Rise Guidance (CNRA OPC 2018) (and the related Rising Seas in California: An Update on Sea level Rise Science report) is currently considered by the California Coastal Commission (CCC) and other agencies and organizations to be the best available science on SLR in California. In addition to synthesizing the available research on SLR, these documents highlight scientific evidence that indicates the potential for extreme SLR due to the rapidly accelerating and irreversible ice loss could result in upwards of six to 10 feet of sea level rise (CCC 2021; CNRA OPC 2018). However, these planning documents consider a range of SLR projections due to uncertainty in future GHG emissions.

Rising sea levels are expected to increase storm flooding, coastal erosion, tidal inundation, submergence of nearshore lands, groundwater rise, and seawater intrusion (CCC 2021). The best available science currently offers probabilities of specific sea level projections at various tide gauges that are used to inform planning decisions along the California coast. These probabilities are based on observations, global climate models, and expert opinion. The projections consider different scenarios of GHG emission rates referred to as Representative Concentration Pathways (RCPs), which are named for the associated radiative forcing level, in watts per square meter.

4.18 Other Considerations

Figure 4.18-1 Sea Level Rise and Storm Frequency



Source: ESRI World Imagery 2022; CNRA OPC 2018

The RCPs range from low emission rates (RCP 2.6) to high emission rates (RCP 8.5), and also include an extreme scenario (H++), which is a single scenario and not a probabilistic projection (CNRA OPC 2018). Before 2050 the differences in SLR projections are minor and do not differentiate much until after 2050. The world is currently on the RCP 8.5 emission trajectory (CNRA OPC 2018).

Sea levels and rates of SLR are also dependent on changes in land elevations which vary across California due to such factors as tectonic activity, subsidence, ocean dynamics, and changes in the Earth’s gravitational and rotational fields. To account for vertical land movement associated with tectonic activity and subsidence, localized sea level projections are tied to these local tide gauge data of which there are 12 along the California coast. The Project site is closest to the Port San Luis tide gauge. Table 4.18.1 shows the projected SLR over time under low (RCP 2.6) and high (RCP 8.5) emission rates as well as the extreme rate (H++) scenario that is relevant to the Santa Maria Refinery (SMR) wastewater outfall area, based on the Port San Luis tide gauge data. The first column shows ranges of sea level range for what is considered a likely probability of greater than 66 percent chance to occur, which is considered by the California Natural Resources Agency Ocean Protection Council (CNRA OPC) to be used as guidance for low risk aversion decisions (CNRA OPC 2018). The second column shows the values for what is considered appropriate for medium-high risk aversion decisions with a 0.5 percent probability of occurring. Finally, the last column shows the amount of SLR that is estimated under the extreme rate (H++) scenario, which is generally used for evaluating critical infrastructure or other extreme risk aversion decisions.

Table 4.18.1 Projected Sea Level Rise (in feet) for Port San Luis

Emission Rate and Year	Probabilistic Projections		Extreme Rate (H++ scenario) ^a
	Likely Range (66% probability sea level rise is between...)	1-in-200 Chance (0.5% probability sea level rise meets or exceeds...)	
High Emissions ^b - 2030	0.2–0.5	0.7	1.0
High Emissions - 2040	0.4–0.7	1.2	1.6
High Emissions - 2050	0.5–1.0	1.8	2.6
Low Emissions - 2060	0.4–1.1	2.2	
High Emissions - 2060	0.6–1.3	2.5	3.7
Low Emissions - 2070	0.5–1.3	2.9	
High Emissions - 2070	0.8–1.7	3.3	5.0
Low Emissions - 2080	0.6–1.6	3.6	
High Emissions - 2080	1.0–2.1	4.3	6.4
Low Emissions - 2090	0.6–1.8	4.5	
High Emissions - 2090	1.1–2.6	5.3	8.0
Low Emissions - 2100	0.7–2.1	5.4	
High Emissions - 2100	1.3–3.1	6.7	9.9
<i>Most of the models do not extend beyond 2100 and as a result the remaining projections below have increased uncertainty.</i>			
Low Emissions - 2110	0.8–2.1	5.0	
High Emissions - 2110	1.6–3.3	7.0	11.6
Low Emissions - 2120	0.8–2.4	7.0	
High Emissions - 2120	1.8–3.7	8.2	13.8
Low Emissions - 2130	0.9–2.7	8.0	

4.18 Other Considerations

Table 4.18.1 Projected Sea Level Rise (in feet) for Port San Luis

Emission Rate and Year	Probabilistic Projections		Extreme Rate (H++ scenario) ^a
	Likely Range (66% probability sea level rise is between...)	1-in-200 Chance (0.5% probability sea level rise meets or exceeds...)	
High Emissions - 2130	2.0–4.3	9.6	16.2
Low Emissions - 2140	0.9–3.0	9.2	
High Emissions - 2140	2.1–4.8	11.1	18.7
Low Emissions - 2140	0.9–3.0	9.2	
High Emissions - 2140	2.1–4.8	11.1	18.7
Low Emissions - 2150	0.9–3.3	10.6	
High Emissions – 2150	2.4–5.4	12.7	21.5

Notes: ^a The H++ projection is a single scenario and does not have an associated likelihood of occurrence as do the probabilistic projections.

^b Prior to 2050, there is not much variance between the low (RCP 2.6) and high (RCP 8.5) projections so only the high is shown.

Source: CNRA OPC 2018

The contribution of thermal expansion (i.e., ocean water volume expanding as ocean water warms) and small glaciers to SLR is relatively well researched, but the effects of climate change on large ice sheets are less understood. In general, SLR is projected to accelerate toward the second half of the century. A contributing factor to SLR is the effects of vertical land movements. In the vicinity of the Project site, there appear to be uplift conditions; however, these are factored into the SLR projections presented in Table 4.18.1 above (Blackwell et al. 2020).

If GHG emissions continue unabated, key glaciological processes could cross thresholds that lead to rapidly accelerating and effectively irreversible ice loss. Aggressive reductions in GHG emissions may substantially reduce but do not eliminate the risk to California from the extreme (H++) sea level rise scenario. Current observations of Antarctic melt rates cannot rule out the potential for extreme sea level rise in the future because the processes that could drive extreme Antarctic Ice Sheet retreat later in the century are different from the processes driving loss now (CNRA OPC 2018).

Project Site Vulnerabilities

According to the projections from the CNRA OPC in Table 4.18.1 above, the Project site could experience an estimated 0.7 feet to as much as 9.9 feet of SLR by the year 2100. In the guidance for application of the SLR projections, the CNRA OPC recommends first evaluating a project’s lifespan as a guide to whether to use SLR projections for only the high emissions scenario (in the case of projects that have lifespan that would end before 2050) or across the range of high- and low-emissions (for projects with lifespans beyond 2050). Considering the Project characteristics, this Project’s lifespan would be considered to extend beyond 2050 and is conservatively assumed in this analysis to extend to 2100. The Project does not include any housing component or critical infrastructure and as a result would not be considered a highly vulnerable or critical asset that would warrant a definite inclusion of the extreme scenario (H++), but it is provided here for comparison purposes. The Project would include allowing a non-operating wastewater disposal ocean outfall to remain in-place following abandonment of the SMR and thus is considered a medium risk aversion land use (CNRA OPC 2018; CCC 2018). The following provides the range

of low, medium-high, and extreme risk aversion SLR projections for the Project site up to the year 2100, based on the Port San Luis tide gauge data:

- **Low risk aversion projection:** 2.1–3.1 feet
- **Medium-high risk aversion projection:** 5.4–6.7 feet
- **Extreme risk aversion projection:** 9.9 feet

To better understand the potential impacts of this amount of SLR, the modeling efforts that were developed collaboratively between the United States Geological Survey (USGS) Pacific Coastal and Marine Science Center and the Point Blue Conservation Science provide useful tools in their Coastal Storm Modeling System (CoSMoS). Originally launched in 2011, the CoSMoS model first focused on the San Francisco Bay region but was expanded in 2015 and again in 2018 to extend into coastal areas south of the Bay. The CoSMoS tool spans the range of potential sea level and storm conditions from near- to long-term, providing a picture of potential exposure to flooding and erosion hazards under a given scenario. Projections are available for multiple storm scenarios (daily conditions, annual storm, 20-year- and 100-year-return intervals) and under a suite of SLR increments from zero to 9.8 feet (zero to three meters), and an extreme 16.4 feet (five-meter) scenario.

The CoSMoS model projects coastal flooding, shoreline changes (sand beach changes and cliff retreat, where applicable) due to both SLR and coastal storms driven by climate change. The model also projects changes in depth to groundwater as a result of increased SLR and includes all factors that contribute to changes in coastal water levels. Long-term changes in the sea levels are just one of many factors that can be expected to affect coastal water levels as tides, storm surges, waves, river discharges, and seasonal water level fluctuations (e.g., El Niño and La Niña events) can also combine together.

Wave runup is a complex physical coastal process that depends on local water levels, incident wave conditions, and the nature of the beach characteristics (e.g., incline, depth, and presence of shore barriers such as dunes, bluffs, or revetment). Runup heights are dependent on incoming wave characteristics, specifically, wave height, period, and direction, as well as the physical properties of the surf zone and the shore barrier upon which these waves act. As a result, runup is sensitive to many physical properties that can make runup effects vary considerably along short distances of coastline.

Project Site SLR Impacts

Based on the CoSMoS model, Figure 4.18-1 shows the baseline for the Project area, with no SLR and no storm frequency, and then with 6.7 feet (2.1 meters) SLR, both with and without a 100-year storm event. This SLR of 6.7 feet (2.1 meters) represents maximum emissions for a medium-risk aversion scenario, which has a 0.5 percent chance probability that SLR will be exceeded in the year 2100. Because the wastewater outfall pipeline traverses a wide, sandy beach and intertidal zone with no sea cliff or structures along the coastline, a SLR of 6.7 feet would not result in consequential changes to the shoreline area. In the vicinity of the wastewater outfall, the shoreline would migrate inland approximately up to the current dune line, which is gradual (not steep). No coastal flooding would occur beyond the intertidal zone, including under the 100-year storm event. SLR would result in accretion (i.e., addition) of sand over the outfall in the location of the existing intertidal zone; however, the area of wave scour would migrate inland, potentially exposing the

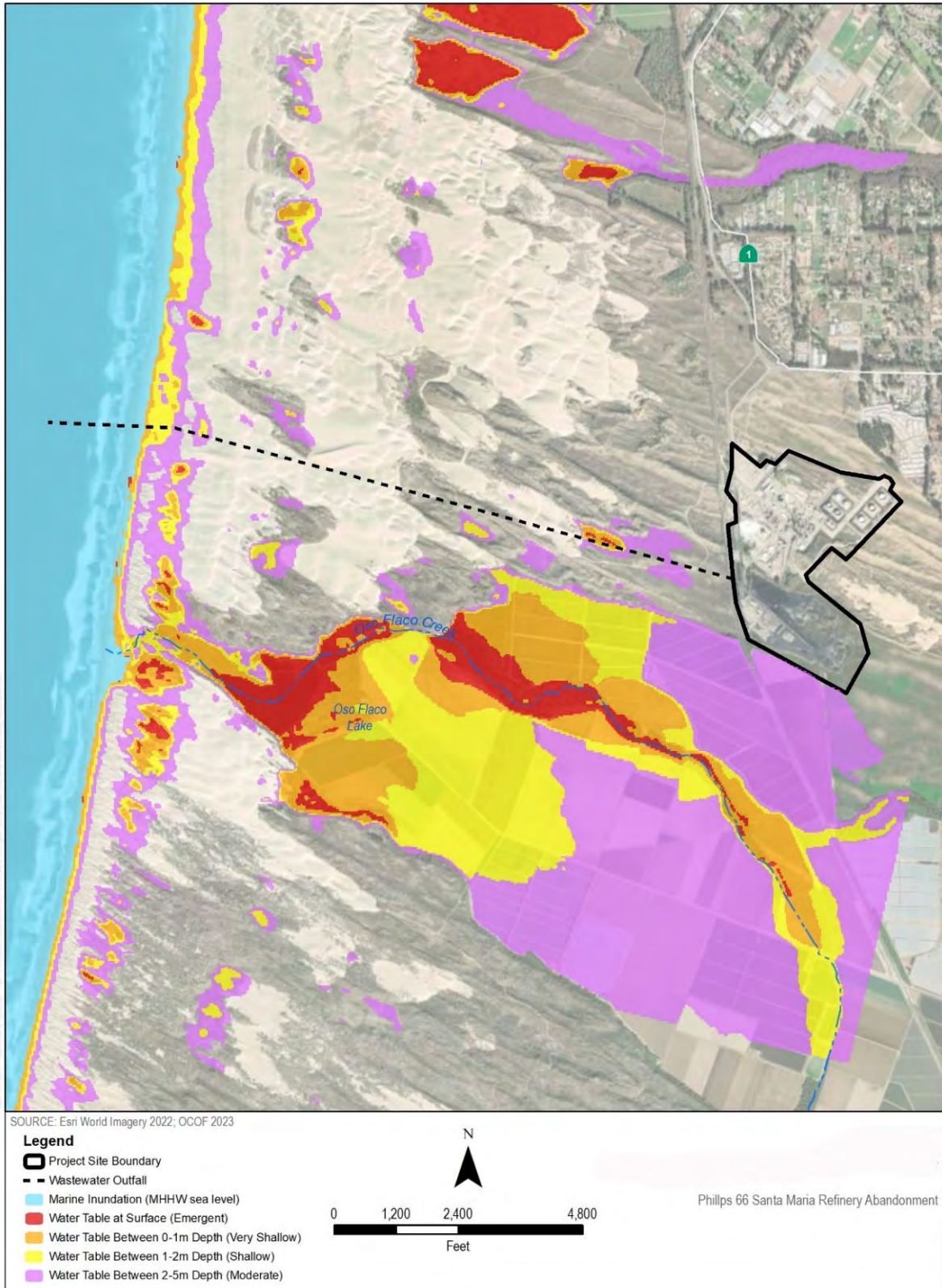
4.18 Other Considerations

outfall during large storm events. The existing sand dunes provide additional overburden sands and thus would minimize the potential for exposure; however, outfall exposure and associated damage cannot be ruled out over the long term.

In addition, as illustrated in Figure 4.18-2, current depth to groundwater is one to two meters in the intertidal area, two to five meters in the proximal (near the shoreline) dune areas, and locally as shallow as zero to one meter in the back-dune area west of the SMR. A SLR of 6.7 feet would result in migration of the shallow groundwater (i.e., one to two meters) inland such that increased areas of shallow groundwater (i.e., one to two meters) would be present in the proximal dune areas and very shallow (zero to one meter) to emergent groundwater would be present in the back-dune area. Increased exposure of the wastewater outfall to saline groundwater could result in degradation of the pipeline over the long term.

As described in Section 4.7, Geology and Soils, although the wastewater outfall would be subject to potential exposure and degradation over the long term (through 2100), geology and soils impacts would only be considered significant in the event that the wastewater outfall results in soil erosion, topographic changes, loss of topsoil, or unstable soil conditions as a result of the Project. Unlike a seawall or rock revetment, which can cause a loss of beach sand and narrowing of the beach due to wave energy reflection, the presence of a single 12-inch- to 14-inch-diameter wastewater outfall would not result in adverse impacts to natural beach sand replenishment and sand migration processes. If exposed, pipeline exposure would likely occur during periods of high surf, high tides, and associated intense wave scour during the winter months. Conversely, the pipeline may be covered during the summer months when swells are generally smaller at Pismo Beach and sand accretion generally occurs along the shoreline. Regardless of the amount of pipeline exposure due to wave scour, because the outfall would not cause or exacerbate the potential for such geologic impacts to occur, impacts would be less than significant.

Figure 4.18-2 Sea Level Rise and Rising Groundwater



Source: ESRI World Imagery 2022; CNRA OPC 2018

4.18.2 References

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5.0 Alternatives

The California Environmental Quality Act (CEQA), Section 15126.6, requires an Environmental Impact Report (EIR) to describe a reasonable range of alternatives to a project or to the location of a project which could feasibly attain its basic objectives and evaluate the comparative merits of the alternatives. This section discusses a range of alternatives to the Project, including the “No Project” alternative. Criteria used to evaluate the range of alternatives and remove certain alternatives from further consideration are addressed. State CEQA Guidelines Section 15126.6 provides direction for the discussion of alternatives to the Project. This section requires:

A description of “...a range of reasonable alternatives to the project, or to the location of a project, which would feasibly attain most of the basic objectives of the project but would avoid or substantially lessen any of the significant effects of the project, and evaluate the comparative merits of the alternatives” [15126.6(a)].

A setting forth of alternatives that “...shall be limited to ones that would avoid or substantially lessen any of the significant effects of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project” [15126.6(f)].

A discussion of the “No Project” alternative, and “...If the environmentally superior alternative is the “No Project” alternative, the EIR shall also identify an environmentally superior alternative among the other alternatives” [15126.6(e)(2)], even if the Project is the next environmentally preferable option.

A discussion and analysis of alternative locations “...that would substantially lessen any of the significant effects of the project need to be considered for inclusion in the EIR” [15126.6(f)(2)(B)].

The EIR must explain the rationale for selecting the alternatives to be discussed, identify those that were not considered because they were infeasible, and briefly explain why any alternatives were rejected. An EIR is not required to consider alternatives that are not feasible. The “environmentally superior” alternative to the Project must be identified and discussed. If the environmentally superior alternative is the No Project Alternative, the EIR must identify an additional “environmentally superior” choice among the other Project alternatives.

Alternatives must meet most of the Project objectives, including addressing the “underlying purpose of the project” (CEQA Guidelines 15124). In addition, an EIR should not exclude an alternative from detailed consideration merely because it would impede to some degree the attainment of the project objectives. An EIR should define the alternative analysis around a reasonable definition of “underlying purpose” and need not study alternatives that cannot achieve that basic goal.

5.0 Alternatives

In defining feasibility of alternatives, and pursuant to the CEQA Guidelines, the following considerations were taken into account: site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control, or otherwise have access to the alternative site (or the site is already owned by the proponent) [CEQA Guidelines Section 15126.6(f)(1)].

This document has used an alternative screening analysis to select the alternatives evaluated in detail in the EIR. The alternative screening analysis provides a detailed explanation of why some of the alternatives were rejected from further analysis and assures that only the environmentally preferred alternatives are evaluated and compared in the EIR.

This screening methodology also uses the “*rule of reason*” approach to alternatives as discussed in State CEQA Guidelines (Section 15126.6(f)). The rule of reason approach has been defined to require that EIRs address a range of feasible alternatives that have the potential to diminish or avoid adverse environmental impacts. The State CEQA Guidelines state:

The alternatives shall be limited to ones that would avoid or substantially lessen any of the significant effect of the project. Of those alternatives, the EIR need examine in detail only the ones that the lead agency determines could feasibly attain most of the basic objectives of the project. (Section 15126.6(f))

In defining feasibility of alternatives, the State CEQA Guidelines state:

Among the factors that may be taken into account when addressing the feasibility of alternatives are site suitability, economic viability, availability of infrastructure, general plan consistency, other plans or regulatory limitations, jurisdictional boundaries (projects with a regionally significant impact should consider the regional context), and whether the proponent can reasonably acquire, control or otherwise have access to the alternative site (Section 15126.6(f)(1)).

If an alternative was found to be technically infeasible, then it was dropped from further consideration. This was the primary feasibility factor that was used to eliminate an alternative without further screening analysis. In addition, CEQA states that alternatives should “...*attain most of the basic objectives of the project ...*” (Section 15126.6(a)). If an alternative was found to not attain most of the basic objectives, then it was also eliminated.

Given the CEQA mandates listed above, the remainder of this chapter covers: (1) a brief description of a range of reasonable alternatives to the Project; (2) an environmental analysis of the alternatives that were selected for further consideration in the EIR; and (3) a comparison of the alternatives with the Project and a discussion of the environmentally superior alternative for the Project. There is also a discussion of the potential beneficial impacts of the Project due to the proposed demolition activities.

5.1 Summary Description of Alternatives

A screening analysis considered a variety of alternatives to the Project. The alternatives initially evaluated include the following:

- No Project Alternative;
- Full Removal of Facilities Alternative;
- Removal of Offshore Facilities Alternative;
- Additional Remediation and Cleanup Alternative;
- Conservative Removal Alternative;
- Limitations on Trucking Destinations Alternative;
- Other Project Locations Alternative; and
- Reduced Remediation Alternative.

The following sections summarize these alternatives. A more detailed description is included in Section 5.2 for those alternatives carried forward to the environmentally superior alternative analysis.

5.1.1 No Project Alternative

CEQA requires an evaluation of the No Project Alternative so that decision makers can compare the impacts of approving the Project with the impacts of not approving the Project. According to CEQA Guidelines §15126.6(3)(B), for a development project the No Project Alternative is the circumstances under which the Project does not proceed. If disapproval of the Project under consideration would result in predictable actions by others, such as the proposal of some other project, this “no project” consequence should be discussed. CEQA defines the “no project” as:

[W]hat would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services (15126.6).

Under the No Project Alternative, the foreseeable action would be not conducting the site demolition activities proposed by the Project. The Santa Maria Refinery (SMR) would remain at the site in a shut-down status and would not process crude oil for shipment to the Bay Area Rodeo Refinery.

As CEQA also assumes that regulatory schemes would be applicable, the remediation of contaminated soils and groundwater as required by the Central Coast Regional Water Quality Control Board (Central Coast Water Board) would still occur.

Because CEQA requires that the No Project Alternative be analyzed in the EIR, it has been retained for full analysis in this section. More details are provided in Section 5.2.1 below.

5.1.2 Full Removal of Facilities Alternative

As discussed in Chapter 2.0, Project Description, a number of facilities are proposed to remain in place for potential future use (surface hardscape, rail spurs, truck scale, wastewater outfall pipeline, etc.). Under this alternative, all facilities would be removed except those associated with Central Coast Water Board cleanup actions currently ongoing, which would include the following facilities:

- Groundwater monitoring wells; and
- The Slop Oil Line Release water remediation equipment and other remediation equipment that may be need as required by the Central Coast Water Board.

All other facilities would be removed as part of this alternative.

Because full removal may provide some environmental benefits, retaining this alternative for detailed analysis provides full disclosure to the public and is warranted. As per CEQA, the inclusion of this alternative “will foster informed decision making and public participation” (15126.6) and therefore this alternative has been retained for further analysis in this section. More details are provided in Section 5.2.2 below.

5.1.3 Removal of Offshore Facilities Alternative

As discussed in Chapter 2.0, Project Description, a number of facilities are proposed to remain in place for potential future use (surface hardscape, rail spurs, truck scale, wastewater outfall pipeline, etc.). Under this alternative, all of the facilities as proposed in the Project would remain except for the wastewater outfall pipeline, which would be removed. The wastewater outfall line is currently under a lease to the California State Lands Commission (CSLC) which expires in 2028. It is subject to a number of stipulations and requirements in the lease (see Appendix A). The outfall is also located in an area that has potentially been designated for the Chumash Heritage National Marine Sanctuary area, extending from Point Arguello to Cambria (<https://chumashsanctuary.org>) which, if implemented, may require permits from NOAA for removal as well. For full disclosure, this alternative has been retained for further analysis. More details are provided in Section 5.2.3 below.

5.1.4 Additional Remediation and Cleanup Alternative

The Project proposes to remediate the site to industrial standards. Under this alternative, the site would be remediated to different, higher standards than requirements for Industrial land uses, upon approval from the Central Coast Water Board. Because a higher standard of remediation and cleanup could provide some environmental benefits and/or produce greater impacts (more truck trips, etc.) and full disclosure to the public is warranted, this alternative has been retained for further analysis in this section. More details are provided in Section 5.2.4 below.

5.1.5 Limitations on Trucking Destinations Alternative

The Project proposes to transport materials to potentially different locations depending on the receiving facilities' ability to accept those materials, their associated capacity, and other factors, such as economics. Different routes may have different potential impacts associated with traffic impacts, noise to nearby residences, or other issues. This alternative would limit the destinations to only those that have the least potential impacts.

As CEQA impacts related to traffic are based only on vehicle miles traveled (VMT), and not necessarily potential congestion issues, and because Project-related vehicle miles would be substantially less than the historical baseline truck miles traveled, there would be less than significant impacts with the transportation issues. Truck transport would be equal to or less than that identified as part of the historical average levels from the SMR, thereby reducing potential impacts along trucking routes; rail routes are well established and limited. Therefore, as the Project's potential impacts from trucking are already less than significant, this alternative would not provide reductions in potentially significant impacts and therefore has been eliminated from consideration.

5.1.6 Other Project Locations Alternative

CEQA requires that an EIR examine potential different locations for a project. This is applicable primarily for new projects where the location of a development, for example, could be different than the Project. However, for this Project involving the removal of existing facilities, there cannot be a different location. Therefore, this alternative has been eliminated from further consideration.

5.1.7 Reduced Remediation Alternative

The Project as proposed would remediate the site to industrial standards for soil and groundwater contamination. This alternative would involve remediating the site to a lower set of standards or not remediating all of the site. Conservative estimates based on the industrial standards define the maximum amount of material that would need to be removed under the Project. This amount of material removed also thereby defines the number of rail cars and trucks, as well as the duration and extent of the below ground efforts that are needed, and thereby duration of construction equipment activities. All of these affect the air emissions estimates, VMT, and other components of the Project. Remediation is also required by regulatory oversight, such as the Central Coast Water Board cleanup requirements, and would have to be implemented regardless of the alternative or Project. As remediation to at least the industrial standards would be a regulatory requirement, and as this alternative would not reduce any potentially significant impacts of the Project and may not be feasible, it has therefore been eliminated from further consideration.

5.1.8 Conservative Removal Alternative

The Project would involve removal of aboveground equipment and then belowground equipment only where remediation is required. This would entail leaving a potentially substantial amount of materials belowground as most of the belowground infrastructure may not be located in areas of

5.0 Alternatives

the site that would require remediation. This alternative would involve the removal of all belowground infrastructure, grading of a high percentage of the site and revegetation of those graded areas, resulting in about 81 percent of the site being vegetated as opposed to the Project level of 49 percent. Some areas would remain “hardscaped”, including gravel and crushed concrete, for potential future use (primarily Area 3, Process and Electrical Substation/Switchyard; see Figure 2-3), and the items proposed to remain related to regulatory requirements (monitoring wells, groundwater remediation infrastructure) and other potential future use infrastructure (rail spur, electrical systems, wastewater outfall, etc.) would also remain.

As this alternative may produce some environmental benefits, full disclosure to the public is warranted. As per CEQA, the inclusion of this alternative “will foster informed decision making and public participation” (15126.6). Therefore, this alternative has been retained for full analysis in this section. More details are provided in Section 5.2.5 below.

5.2 Environmental Analysis of Selected Alternatives

The sections above discuss a number of potential alternatives to the Project. The alternatives identified for further detailed analysis and discussion in the environmentally superior alternative section are listed below:

- No Project Alternative;
- Full Removal of Facilities Alternative;
- Removal of Offshore Facilities Alternative
- Additional Remediation and Cleanup Alternative; and
- Conservative Removal Alternative.

Each of these are presented in the following section along with the potential impacts for each issue are compared to the Project.

5.2.1 No Project Alternative

Under the CEQA-required No Project Alternative, the demolition Project would not move forward. The SMR would remain in a shut-down, decommissioned state and no crude oil would be received or processed. It is possible that the SMR in its current state could be sold to an interested buyer, who would then design a project and submit an application to the County for review. This project would also need to go through the CEQA process, not unlike the process currently being implemented for the Project. This future use is speculative, however, and it is possible that the SMR would remain in a shut-down state for many years.

The SMR site is located within the coastal zone in an area covered by the County’s adopted Local Coastal Plan (LCP) and appealable to the California Coastal Commission (CCC). Under County land use policies and codes in Title 23, the Project requires County approval of a Development Plan/Coastal Development Permit (DP/CDP), prior to issuance of Building Permits. The SMR currently operates under a 1990 County land use permit DP/CDP D890287D.

In addition, Phillips 66 holds an existing lease from the CSLC for the wastewater pipeline and offshore outfall extending from the plant to the ocean, which is proposed to remain in place as part of the Project. The CSLC lease expires in 2028.

In 1990, permit DP/CDP D890287D the County issued to Phillips 66 increased the throughput of the Refinery. The permit has a number of stipulations, including the following:

- Noise condition NOI-1: High noise construction activities shall occur only between 6:30 a.m. and 9:00 p.m. on Monday through Saturday of any week, and shall not occur on federal, state, or county holidays. High noise construction activities are defined as those which significantly increase the sound pressure level over the normal operations measurable at the Unocal property line.
- Reduction of Construction Impacts condition SOC-2: For all construction workers, (applicant and contractor) applicant shall identify on and off-site parking areas and access routes, shall discourage large numbers of vehicles accessing the refinery, shall stagger work shifts to a non-peak hour traffic schedule, shall maintain lists of available housing, and shall discourage workers from using public campgrounds as living quarters. Construction worker parking shall not interfere with normal and reasonable use of private property or recreational areas.
- Abandonment - Removal of Debris and Unused Materials condition ABN-1. During the life of the project, applicant will remove debris, including all equipment and material no longer in use.
- Abandonment - Site Restoration Required condition ABN-2: Within 1 year of cessation of petroleum processing and shipping operations subject to this approval, applicant shall have dismantled and removed all approved facilities and equipment, and shall have cleaned and plugged, and abandoned in place all other associated pipelines. The time for completion of abandonment procedures may be extended by the planning Director as part of approval of the abandonment plan to be submitted by Unocal. Abandonment shall include restoring facility sites approved herein to pre-Project conditions, including recontouring and revegetation with local native plant materials, excavating contaminated soil and mitigating abandonment impacts.

Under the No Project Alternative, the Applicant would not demolish the facilities and therefore not fulfill the obligations under their existing permit requirements as discussed above. It is possible, under a bankruptcy or other proceeding, that the Applicant could not abandon the facilities on the site.

Continued shut-down status of the facilities at the SMR under the No Project Alternative would entail periodic site visits and maintenance of facilities, which could require nominal pickup truck and maintenance truck visits with minimal staff utilization continuing indefinitely. The groundwater monitoring wells and the slop oil remediation facilities under Waterboard permits would continue to operate, and the Northern Inactive Waste Site (NIWS) site restoration would continue until revegetation criteria are met. No other facilities would be operational. Tanks, piping, and vessels will have been cleaned out and purged as per current San Luis Obispo County Air Pollution Control District (SLOCAPCD) permits, and monitoring and remediation activities are

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ongoing and not part of the Project, no inventory of crude oil, sulfur, coke, or other materials would be maintained on site.

As CEQA also assumes that state regulatory schemes would be applicable, the remediation of contaminated soils and groundwater as required by the Central Coast Water Board would still occur under this alternative. Given this, there may be some removal of some aboveground and belowground structures in order to accommodate the soil remediation. However, efforts to provide backfill or grading, particularly of Area 6, and revegetation would not occur. This alternative assumes that the contamination at the site would be able to be identified and removed, as required by existing regulations. However, as Phillips 66 has indicated that they believe that full remediation of the site, as would be required by the Central Coast Water Board, would not be possible without removing aboveground equipment, this alternative may have some feasibility issues. As CEQA requires an analysis of the No Project Alternative, it has been retained. Assessment of potential impacts relative to the Project are discussed below for each issue area.

Aesthetics

Under the No Project Alternative, the SMR would remain in a shut-down state and no crude oil would be processed. Under impacts AE.1, AE.2, and AE.3 (Vistas, Visual Quality and Light/Glare), as many of the aboveground elements of the SMR might remain, impacts to Aesthetic Resources would be greater than under the Project. Beneficial impacts might still occur if extensive amounts of aboveground infrastructure is required to be removed to access remediation, but the beneficial aspects of the Project most likely would be substantially reduced under this alternative.

Agricultural Resources

Under the No Project Alternative, the SMR would remain in a shut-down state and no crude oil would be processed. Under impacts AG.1 Farmland Conversion, AG.2 Williamson Act, AG.3 Zoning Conflict, and AG.4 Indirect Conversion, as the alternative would occur on site, and the alternative would not result in farmland conversion, Williamson Act impacts, or zoning conflicts, impacts related to Agricultural Resources would be similar under the Project and the No Project Alternative. The mitigation measure under AG.4, AQ.1-1 related to fugitive dust impacts, would still apply as some remediation and soil movement would occur under this alternative.

Air Quality

Under the No Project Alternative, the SMR facilities would remain in place and no demolition would take place. The SMR would no longer be operating, so the emissions levels for this alternative would be reduced compared to the historical operations. There would continue to be regulatory requirements, primarily by the Central Coast Water Board, to remediate portions of the site which have previously been identified to have potential contamination. For example, the ongoing Slop Oil Line Release and the NIWS remediation and restoration activities would continue under the No Project Alternative, which would generate some nominal emissions due to site visits by a few trucks weekly at the most.

In addition, the contaminated soils and groundwater at the site would have to be remediated based on Central Coast Water Board requirements. This would entail soil characterization testing and removal of up to the estimated maximum 200,500 cubic yards discussed in Chapter 2.0, Project Description. The testing and removal of these soils may require the removal of some aboveground and belowground infrastructure. This would require activities potentially less than the Project, as

less infrastructure may have to be removed, but some level of aboveground and belowground infrastructure would have to be removed in order to test for and remove contaminated soils. This would require the use of construction equipment and activities that could be less intense, but somewhat similar to, the Project.

The emissions from demolition discussed in impacts AQ.1 and AQ.3 (construction criteria pollutants and toxics), would occur at a lower level and associated mitigation measure (MM) AQ.1-1 and AQ.3-1 would be applicable. Impacts related to AQ.2, operational emissions, would continue to be applicable as some activity would continue on site related to remediation and restoration activities. Impacts related to odors, AQ.4, would potentially occur, but at a lower level, with regulatory requirements necessitating the removal of soils. Compliance with Plans, AQ.5, would also be similar and MM AQ.5-1 would be applicable.

Biological Resources

Under the No Project Alternative, the SMR would remain in a shut-down state and no crude oil would be processed. Some soil remediation and associated grading would take place as required under the Central Coast Water Board soil remediation regulatory requirements. Under impacts BIO.1 through BIO.11 related to protected species and habitat impacts, impacts would be similar but potentially less than the Project as less soil movement and grading may occur. Mitigation measures associated with impacts BIO.1 through BIO.11 would still apply.

Impacts related to ESHA and ESHA policies (BIO.12 and BIO.15) would still apply as some areas that would be required to be remediated under the No Project Alternative may have ESHA that could be impacted. Mitigation measure BIO.12-1 would still apply.

Impacts related to protected trees (BIO.16) would still apply as some areas that would be required to be remediated under the No Project Alternative may have trees that could be impacted. Mitigation measure BIO.16-1 would still apply.

Impacts related to wetlands, species movement, and habitat conservation plans (BIO.13, BIO.14 and BIO.17) would be similar to the Project under this alternative.

Cultural and Tribal Cultural Resources

Under the No Project Alternative, the SMR would remain in a shut-down state and no crude oil would be processed. Some soil remediation and associated grading would take place as required under the Central Coast Water Board soil remediation regulatory requirements. Under impacts CT.2 through CT.4 related to archaeological resources, human remains, and tribal impacts, impacts would be similar but less than the Project as less soil movement and grading would occur. Mitigation measures associated with impacts CT.2, CT.3, and CT.4 would still apply.

Impacts related to historical resources (CT.1) would be similar to the Project under this alternative.

Energy

Energy use under the No Project Alternative would be reduced from the Project as the construction activities would not be conducted to the same level, and the diesel fuel use would be reduced from hauling less demolition debris, and depending on the extent of belowground contamination that is required to be removed. SMR historical operations energy use levels would no longer occur, thereby resulting in a net reduction in long-term energy use as the SMR would no longer be

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operating. Impacts EN.1 and EN.2 (Energy Use and Standards) would continue to be applicable, but with lower construction-related energy levels.

Geology and Soils

Under the No Project Alternative, the SMR would remain in a shut-down state and no crude oil would be processed. Under impacts GEO.1 and GEO.2, as the activities would be similar but less under the No Project Alternative compared to the Project and neither one would result in additional seismic issues as per CEQA, impacts related to geologic hazards would be similar under the Project and the No Project Alternative.

With respect to erosion impact GEO.3, short-term erosion-related impacts associated with the Project would occur less under the No Project Alternative as less activity would occur. As a result, erosion-related impacts would be less under the No Project Alternative, and would remain less than significant.

For impacts GEO.4 (expansive soils) and GEO.5 (safety element), impacts associated with the Project would occur less under the No Project Alternative as less activity would occur. As a result, impacts would be less under the No Project Alternative, and would remain less than significant.

With respect to mineral resources impact GEO.6, the Project site does not overlie an area of valuable mineral resources. Therefore, impacts related to mineral resources would be similar under the Project and the No Project Alternative.

Greenhouse Gas Emissions

Under this alternative, the SMR would remain in a shut-down state as under the Project and there would be a net reduction in GHG emissions. Impact GHG.1 (GHG emissions) would continue to be applicable, but less construction emissions would be generated. GHG.2 (GHG Policies) would also continue to be applicable, but probably to a lesser extent as less construction activities are expected to occur.

Hazards and Hazardous Materials

For hazards, handling of contaminated soils would occur under this alternative, thereby having similar impacts associated with HAZ.1. As some soil remediation and potentially additional groundwater remediation beyond what is currently performed, would still be needed as part of the regulatory requirements, impact HAZ.1 and MM HAZ.1-1 would still be applicable.

Impact HAZ.2 through HAZ.7 (routine and upsets, schools, listed sites, airports, emergency response and wildfire) and MM HAZ.2-1, MM HAZ.2-2, MM HAZ.4-1, and MM HAZ.7-1 would be applicable as some construction activities would occur, although to a lesser extent than the Project due to reduced demolition. Additional hazards may occur due to the remaining aboveground infrastructure, due to potential vandalism or attractiveness of the area to mischief. However, as access to the site would be limited (on-site fencing would remain) and access to the site would be illegal, it is not further addressed.

Hydrology and Water Quality

Under the No Project Alternative, the SMR would remain in a shut-down state and no crude oil would be processed. Remediation would still be required as per Central Coast Water Board

requirements. Impact HWQ.1 (water quality) under the No Project Alternative would be similar to the Project and MM HAZ.2-1 would apply.

For impact HWQ.1, with respect to erosion-induced sedimentation of drainages and incidental spills from remediation equipment, short-term water quality impacts associated with the Project would occur under the No Project Alternative but to a lesser extent. As a result, water quality-related impacts would be less under the No Project Alternative.

For impact HWQ.2 related to seawater intrusion, groundwater quality impacts under the No Project Alternative would be similar to the Project, as the No Project Alternative would similarly not include new (i.e., in addition to the existing Slop Oil Line Release remediation) groundwater remediation activities, thus minimizing the potential for increased seawater intrusion. Known areas where there is Project soil remediation would continue and removal of the known source material of groundwater contamination under the No Project Alternative would be realized as under the Project. Therefore, the No Project Alternative would result in similar groundwater quality impacts as the Project.

For impacts HWQ.3, HWQ.4, and HWQ.6, with respect to stormwater runoff rates, drainage patterns, flooding and soil absorption, impacts would be similar to the Project under the No Project Alternative, as the No Project Alternative would result in a similar amount of impervious surfaces and stormwater runoff.

For impact HWQ.5, both the Project and the No Project Alternative would be completed outside a flood hazard area. Therefore, impacts would be the same under the Project and this alternative.

For impact HWQ.7, with respect to water supply and demand, the No Project Alternative would require less water demand and most likely less area would be disturbed. Therefore, the No Project Alternative would result in slightly less impacts compared to the Project.

For impact HWQ.8, both the Project and this alternative would not be in an area subject to flood impacts. Therefore, impacts would be same under the Project and this alternative.

Land Use and Planning

Under the No Project Alternative, the SMR would remain in a shut-down, decommissioned state and no crude oil would be processed. Under impact LUP.1 related to dividing a community, impacts would be similar to the Project.

Impacts related to particulate emissions policies in the short term (LUP.2) would still apply as some areas that would be required to be remediated under the No Project Alternative may require soil movement and grading. Mitigation measures AQ.1-1 and AQ.3-1 would still apply. Impacts related to particulate emissions policies in the long term (LUP.3) would still apply and be beneficial. Impacts related to other policies (such as coastal access) (LUP.4) would still apply and be the same as the Project.

Noise

For the No Project Alternative, fewer construction activities would occur. Therefore, there would be less noise impacts from construction averaged over the long term. However, peak noise levels

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would be similar to the peak noise levels from the Project, as similar equipment arrangements may occur for short periods with the same peak noise-producing equipment arrangement in the same location as the Project (such as the tank removal, and the pulverizer and rock crusher). As some construction activities would still occur at a similar peak level, impact NOI.1 (noise increases) and mitigation measures NOI.1-1 and NOI.1-2 would be applicable. Impacts NOI.2 (vibration) and NOI.3 (vibration) would be applicable.

Public Services, Utilities and Service Systems

Under the No Project Alternative, the SMR would remain in a shut-down state and no crude oil would be processed. Under impacts PSU.1 through PSU.8, related to fire, police, LMUSD, parks, water supplies, wastewater, and solid waste, impacts would be similar to the Project.

Recreation and Coastal Access

Under the No Project Alternative, the SMR would remain in a shut-down state and no crude oil would be processed. Under impacts REC.1 and REC.2, related to parks and recreational facilities, impacts would be similar to the Project.

Transportation

Under the No Project Alternative, the SMR facilities would remain in place and no demolition would take place. The SMR would no longer be operating, so the traffic levels would be reduced over the historical operating scenario. There would continue to be regulatory requirements, primarily by the Central Coast Water Board, to remediate portions of the site which have been identified to have potential contamination, which would generate some trips due to site visits by trucks, but at a lower level than the Project. The trips from demolition discussed in impact TR.1 through TR.3 (VMT, trains, safety) would occur at a lower level as most likely not as much material would be demolished in order to achieve the remediation requirements. As some truck trips would continue under this alternative, mitigation measure TR.1-1 would be applicable.

Wildfire

The risks of wildfire from on-site construction would be similar to the Project, and impacts WF.1, WF.2, and WF.3 (wildfires, infrastructure, slopes/landslides) would be applicable. MM HAZ.7-1 would still be applicable.

5.2.2 Full Removal of Facilities Alternative

Under the Project, a number of facilities are proposed to remain in place for potential future use or due to regulatory requirements. Under this alternative, all facilities would be removed except those required due to regulatory requirements. Table 5.1 lists the facilities under the Project that would remain and their associated status under this alternative.

Table 5.1 Full Removal Alternative Facilities Remaining Status

Facility	Proposed Project Status	Full Removal Alternative Status
Rail spurs at carbon plant and refinery.	Remain	Remove
Truck scale.	Remain	Remove

Table 5.1 Full Removal Alternative Facilities Remaining Status

Facility	Proposed Project Status	Full Removal Alternative Status
Main substation and PG&E power poles and lines to the substation.	Remain	Remove
Perimeter security fencing and solar-powered perimeter lighting.	Remain	Remove
Guard shacks.	Remain	Remove
Groundwater production wells #2, #4, #5, and #6 (used for potable water, fire water, and industrial water at the SMR) or other wells that may be evaluated to provide vertical conduits for contamination..	Remain	Remove
Groundwater monitoring wells.	Remain, for regulatory purposes	Remain, for regulatory purposes
Slop Oil Line Release remediation system components (remediation is in progress under separate permit)	Remain, for regulatory purposes	Remain, for regulatory purposes
Pig receivers/launcher at north boundary for maintenance of off-site pipelines.	Remain	Remove
Maintenance roads for maintenance of remaining facilities.	Remain	Remove
Hardscapes (concrete, asphalt, compacted base/gravel, or asphalt emulsion coating).	Remain	Remove, except for limited areas
Wastewater outfall line.	Remain	Remove
Natural gas lines and crude and product lines (four lines total) from the pig receiver/launcher to the property line.	Remain	Remove
Belowground pipelines (former 8-inch gas fuel line, 8-inch oil line, and 4-inch diluent line) in an approximately 1,200-foot segment extending southwesterly from within the refinery fence line near the wastewater treatment plant to the Phillips 66 property line.	Remain	Remove

Source: Applicant application materials and Chapter 2.0, Project Description

In general, under this alternative, all of the facilities proposed to remain associated with the Project post-belowground efforts would be removed except for the following:

- Groundwater monitoring wells would remain to allow for regulatory requirements associated with ground water monitoring; and
- The Slop Oil Line Release remediation system components to allow for continued remediation of the slope oil line release (to be eventually removed once remediation of the slope oil line release has been completed).

Note that the pig receivers/launcher at north boundary, which would be used for maintenance of off-site pipelines, would be removed and the pipelines underground would be removed from the pig receivers to the property line and capped closed. Some limited hardscapes would remain, allowing for access to regulatory requirement infrastructure, such as roads to access monitoring wells.

The SMR site would be recontoured and revegetated with most of the site vegetated under this alternative.

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Removal of these additional facilities could feasibly utilize the extensive set of construction equipment already proposed for demolition and remediation associated with the Project. However, additional timing would be required, and additional truck or rail trips required in order to remove these facilities. The equipment, tons, duration, and transportation requirements listed below assume no benefits associated with co-arrangements with the current Project efforts and are therefore a worst-case removal estimate. This alternative assumes a similar construction equipment arrangement and requirements, but a longer duration, than the Project.

Site Construction equipment requirements: general construction equipment requirements would include similar equipment as the Project. For the removal of the offshore portion of the wastewater outfall line, a construction barge and associated tug would also be required along with diving support equipment.

Total tons of materials to be removed: total weight of materials is estimated to be about 1,568 tons of rail, concrete, road material, pipe, and miscellaneous materials in addition to those specified for the Project. Weights are based on rail weights per foot, pipe weights by size and type/per foot, and estimates for other materials.

Duration: an additional 24 weeks are estimated to be required to remove the additional facilities. Note this is a worst case and assumes no overlap in facilities removal (such as offshore and onshore occurring at the same time).

Transportation Requirements: movement by truck would total about an additional 85 truck trips, or by rail would total an additional 15 railcars (or about two trains). These would be in addition to those proposed for the Project.

Outfall Construction Requirements: the removal of the outfall would involve removing the onshore portion of the outfall pipeline and the marine, offshore portion of the outfall pipeline. The onshore portion would utilize some of the same equipment that would be utilized for the on-site portion, such as backhoes and dozers, to move the sand and soil and uncover the outfall pipeline, which would then be cut and loaded onto trucks for recycle or another disposal method. Portions of the outfall pipeline may also be pulled from areas where the sand is deep and exposure of the pipeline is more difficult.

For the marine offshore portion, the outfall pipeline would be lifted by a barge crane and cut and loaded onto a barge or supply boat that would then transport the sections to port. The section that is located on the beach/intertidal areas would be removed through pulling from onshore areas. The vessels required would be a crane barge, a transport barge or a supply boat, tugs for barge maneuvering and transport and crew boats. Anchoring of barges and vessels would be required. Vessels would maintain fuel for diesel engines on the barges/vessels.

Note that some efficiencies could be gained through removal of all infrastructure, thereby reducing the equipment requirements listed above, the duration, and even the transportation requirements, for both the Project demolition and the additional facilities under this alternative, simultaneously, but these estimates above address the potential range of efforts.

Assessment of potential impacts relative to the Project are discussed below for each issue area.

Aesthetics

Under this alternative, all facilities not designated as required for regulatory purposes would be removed. Under impacts AE.1, AE.2, and AE.3 (Vistas, Visual Quality and Light/Glare), as the same prominent aboveground elements of the SMR would be removed as under the Project, impacts to Aesthetic Resources would be similar to the Project. Beneficial impacts would still occur, and the beneficial aspects of the Project would be similar under this alternative, with a slight improvement due to the reduction in hardscapes that may be visible from some limited areas.

Agricultural Resources

Under this alternative, all facilities not designated as required for regulatory purposes would be removed. Under impacts AG.1, AG.2, AG.3, and AG.4 (farmland conversion, Williamson Act, zoning conflict), as the areas impacted are within the site, impacts would be similar under the Project. As this alternative would not result in farmland conversion, Williamson Act impacts, or zoning conflicts, impacts related to Agricultural Resources would be similar under the Project and this alternative. The mitigation measure under AG.4, AQ.1-1 related to fugitive dust impacts, would still apply as remediation and soil movement would occur under this alternative.

Air Quality

Under the Full Removal Alternative, additional construction would occur to remove the additional facilities, including the offshore outfall pipeline. Like the Project, the SMR would no longer be operating, and the same activities would be required associated with construction associated with the Project, and the alternative emissions levels would be reduced over the historical operating scenario. While total emissions would increase as the duration of activities would increase, most likely the peak day and peak quarter emissions would remain the same under the Project. Peak levels of NO_x + ROG and fugitive dust would be similar to the Project levels. Therefore, the peak emissions from demolition and remediation discussed in impact AQ.1, would be the same as the peak Project and associated MM AQ.1-1 would be applicable. Impacts related to AQ.2, operational emissions, would continue to be applicable as some activity would continue on site related to remediation and restoration activities.

Impacts related to toxic emissions would be somewhat greater under this alternative as the toxic cancer impacts are related to total emissions of particulate DPM over the alternative Project duration. Therefore MM AQ.3-1 would still be applicable.

Impacts related to odors, AQ.4, would continue to potentially occur at the same level as the Project. Compliance with Plans, AQ.5, would also be similar and MM AQ.5-1 would be applicable.

Biological Resources

Under this alternative, all facilities not designated as required for regulatory purposes would be removed. Soil remediation and associated grading would take place to a greater extent than the Project, and the majority of the site would be revegetated. Under impacts BIO.1 through BIO.11, related to protected species and habitat impacts, impacts would be similar but greater than the Project as more soil movement and grading would occur. Mitigation measures associated with impacts BIO.1 through BIO.11 would still apply.

Impacts related to ESHA and ESHA policies (BIO.12, BIO.15) would still apply as some areas that would be required to be remediated under this alternative may have ESHA that could be

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impacted and most likely more areas could be impacted. Mitigation measure BIO.12-1 would still apply.

Impacts related to protected trees (BIO.16) would apply as some areas that would be required to be remediated under this alternative may have trees that could be impacted and as more areas would be impacted, the potential for impacts to protected trees would be greater. Mitigation measure BIO.16-1 would still apply.

Impacts related to wetlands, species movement and habitat conservation plans (BIO.13, BIO.14 and BIO.17) would be similar to the Project under this alternative.

Biological Resources (Marine)

Removal of the offshore outfall pipeline could produce impacts to marine biological resources. The California Department of Fish and Wildlife (CDFW) website provides information on the resources in the vicinity of the outfall pipeline. These are shown on Figure 5-1, which shows the location of harbor seal haul-out areas, shore types, artificial reefs, surfgrass, wetlands, estuaries, kelp canopy, and predicted substrate.

As shown in Figure 5-1, the area along the outfall is primarily beaches with soft substrate, with minimal eelgrass or kelp canopy. The closest seal haul-out area is located to the north about 12 kilometers in Pismo Beach. The area along this stretch of coast north to Montana De Oro State Park and south to Point Conception is also designed as critical habitat for black abalone (*Haliotis cracherodii*) in California, as designated by the National Oceanic and Atmospheric Administration (NOAA), National Marine Fisheries Service, under the Endangered Species Act.

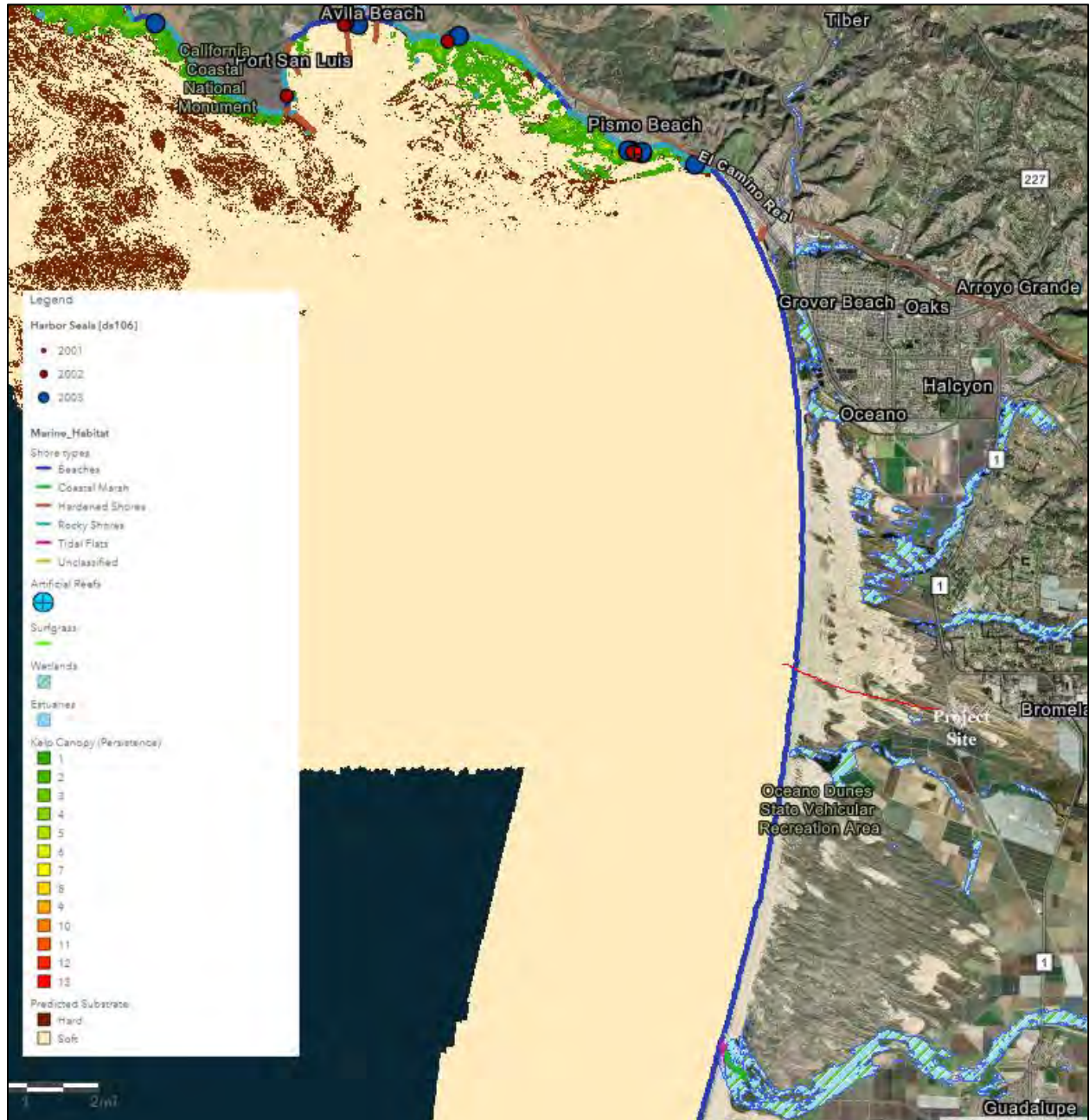
The outfall is inspected by Phillips 66 annually. The most recent report for the inspection occurring October 2022 indicates that the entire outfall line, and all capped risers were completely buried, and only the riser assemblies above the flanges were visible (i.e., protruding above the sand). Seafloor depth (uncorrected by tidal height) at Riser 1 was 37 feet as recorded by the divers' computers. All active and capped risers were functioning properly during the inspection. The thirteen risers (both active and capped) were encrusted with bryozoan colonies, tunicates, and barnacles (*Balanus* spp.). Negligible differences were observed in the amount of encrusting marine growth between the risers. The amount of marine growth observed occurring on the risers was similar to that found in 2021. The sandy benthic substrate surrounding the diffuser and along the outfall line corridor hosted extensive beds of sand dollars (*Dendraster excentricus*), an invertebrate common to wave-exposed beaches in central California.

Removal of the outfall pipeline would impact an estimated 0.5 acres of area offshore (10 feet wide by 2000 feet long).

Due to the relatively sparse amount of marine organisms in the area, removal of the outfall pipeline has a low potential for impacts to marine biological species. Even with this low potential, marine organisms could be located in or would travel through the area, and potential impacts to marine organisms through vessel impacts or other measures could generate impacts. In addition, as the area is designated as a black abalone habitat, there is the potential for impact to black abalone. Incorrect anchoring, inadvertent impacts to marine mammals or potential spills of fuels or oils

could cause impacts to black abalone or marine organisms. Given this, mitigation measures are listed below.

Figure 5-1 Marine Biological Resources



Source: CDFW website map viewer,
<https://mrsenv.maps.arcgis.com/home/webmap/viewer.html?webmap=600a4b1d99f945738db7219fd04cd230>

Alt-Fullremoval-BioMarine.1-1 Marine Protection Plan: *A marine protection plan shall be developed that includes a preconstruction survey for black abalone, anchoring measures to prevent impacts from barge and vessel anchors, measures to prevent impacts from potential spills, and measures to reduce the potential for impacts to marine species. These are addressed below:*

- a) **Preconstruction Survey for Black Abalone:** *Prior to removal of the outfall, the Applicant or its designee shall conduct a survey by a qualified biologist (i.e., certified/approved by NOAA Fisheries and CDFW) within the area of impact to determine if black abalone are present. If black abalone are discovered in the work area, they shall be relocated by a qualified biologist with appropriate authorization from NOAA Fisheries and CDFW to predetermined suitable habitat areas located outside the immediate impact area. Relocation of black abalone would require a biologist with a scientific collection permit, and obtaining a Project incidental take permit and letter of authorization from CDFW. Monitoring shall also be conducted to assess the effectiveness of relocation for a duration as prescribed by NOAA Fisheries, and CDFW. Results of each such survey and relocation monitoring event shall be submitted to the County, State Lands Commission, NOAA Fisheries, and CDFW within 30 days following completion of surveys, and a final summary report submitted within 60 days following completion of construction activity.*
- b) **Anchoring Measures:** *The Applicant shall prepare marine safety and anchoring measures to avoid or minimize, as feasible, impacts to Essential Fish Habitat (EFH) Habitat of Particular Concern (HAPC) such as rocky reef habitat, canopy kelp, or eelgrass beds. The measures components would be developed following the analysis of a pre-construction seafloor habitat and bathymetric survey. Additionally, a confirmation or ground truthing survey shall be conducted to ensure that all pre-determined anchor locations are positioned in sedimentary habitats and avoid impacts to rocky substrata, kelp, or eelgrass beds. The measures shall also include the types and sizes of vessels to be anchored, anchoring and mooring systems that may be utilized, and general anchoring procedures. The measures shall be incorporated into any permits related to barge loading or offshore demolition. Documentation of the mooring system installation shall be submitted to the County within 30 days of installation to document compliance with this measure.*
- c) **Spill Prevention Measures:** *The Applicant shall provide an Oil Spill Response Plan to outline initial response and procedures to be followed in the event of an inadvertent release of hazardous materials such as fuel or oil as a result of Project activities. The plan shall include at a minimum, a description of the Project scope-of-work and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and on-site team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled. The plan shall be reviewed and approved by various agencies including, at a minimum, the County, CSLC, CDFW, NOAA Fisheries, and the CDFW Office of Spill Prevention and Response (OSPR). Each*

Project vessel shall have a copy of the plan and shall maintain the required spill response equipment. Additional shore-based response equipment shall be on site, which can be used for first-response containment and collection of petroleum that reaches the shoreline. If necessary, additional personnel and equipment shall be deployed to assist in the recovery and disposal of spilled petroleum.

- d) ***Marine Mammal Monitoring and Protection Measures:*** *The Applicant shall develop a Marine Mammal and Sea Turtle Mitigation and Monitoring Plan to ensure that no harassment of marine mammals or other marine life occurs during both offshore and onshore Project activities. The plan shall be developed and approved by the County as part of NOAA Fisheries, CDFW, and USFWS consultation under the Marine Mammal Protection Act, and shall include:*
- a. *Description of the work activities including vessel size, activity types and locations, and proposed Project schedule.*
 - b. *The qualifications, number, location, and roles/authority of dedicated marine wildlife observers (MWOs).*
 - c. *The distance, speed, and direction transiting vessels shall maintain when in proximity to a marine mammal or turtle.*
 - d. *Observation recording procedures and reporting requirements in the event of an observed impact to marine wildlife. Collisions with marine wildlife shall be reported promptly to the NOAA Fisheries, CDFW, CCC, USFWS, and CSLC pursuant to each agency's reporting procedures.*
 - e. *A final report summarizing daily reports and any actions taken shall be submitted to the County, NOAA Fisheries, CDFW, CCC, CSLC, and USFWS within 60 days following completion of monitoring.*

Submittal Timing: *Prior to offshore demolition permit issuance* ***Approval Trigger:*** *Issuance of offshore demolition permit* ***Responsible Party:*** *The Applicant* ***What is required:*** *Black Abalone Survey* ***To whom it is submitted and approved by:*** *CDFW, CSLC, NOAA, and County Department of Planning and Building.*

Implementation of the mitigation, in combination with the relatively small areas of disturbance associated with the outfall, and the general lack of advantageous habitat, would reduce the impacts to black abalone, anchoring impacts, potential spills, and potential impacts to marine mammals. However, due to the uncertainty with the viability of the black abalone relocation efforts, the impacts would be **significant and unavoidable (Class I)**.

Cultural and Tribal Cultural Resources

Under this alternative, all facilities not designated as required for regulatory purposes would be removed. Soil remediation and associated grading would take place to a greater extent than the Project. Under impacts CT.2 through CT.4 related to archaeological resources, human remains, and tribal impacts, impacts would be similar but greater than the Project as more soil movement

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and grading would occur. Mitigation measures associated with impacts CT.2, CT.3, and CT.4 would still apply.

Impacts related to historical resources (CT.1) would be similar to the Project under this alternative.

Energy

For energy use under this alternative, impacts would be similar to the Project, with greater diesel use under this alternative as more construction would be required. However, impacts EN.1 and EN.2 (energy use and standards) would be similar as those under the Project.

Geology and Soils

Under the Full Removal of Facilities Alternative, all facilities would be removed except those required due to regulatory requirements. Therefore, under impacts GEO.1 and GEO.2, impacts related to geologic hazards would be similar under the Project and the Full Removal of Facilities Alternative.

For impact GEO.3, with respect to erosion, short-term erosion-related impacts associated with the Full Removal of Facilities Alternative would be greater than under the Project, as more ground disturbance would occur. However, impacts associated with the Full Removal of Facilities Alternative would similarly be less than significant, as erosion-related impacts would be reduced to less than significant levels with implementation of a Stormwater Pollution Prevent Plan (SWPPP) and associated Best Management Practices (BMPs).

Impact GEO.4, related to expansive soils, would be similar to the Project as expansive soils are not an issue at the site.

Impact GEO.5, related to the safety element, would also be similar to the Project for this alternative.

For impact GEO.6, with respect to mineral resources, the Project site does not overlie an area of valuable mineral resources. Therefore, impacts related to mineral resources would be similar under the Project and the Full Removal of Facilities Alternative.

Greenhouse Gas Emissions

Under this alternative, peak construction activities would be similar to the Project, but with longer duration in activities in order to remove the additional facilities. However, the peak year of construction would be similar to the Project. Impacts GHG.1 and GHG.2 (GHG emissions, GHG Policy) could be the same as the Project.

Hazards and Hazardous Materials

Under this alternative, impacts would be similar to the Project as the potential for contaminated soils handling issues under impact HAZ.1. MM HAZ.1-1 related to contaminated soil vapor handling would still be applicable.

Potential accidental issues would be the same as the Project on site, but with increased risk of spills into the marine environment due to the construction offshore related to the outfall line. Impact HAZ.2 (upsets) would have an increase over the Project and MM HAZ.2-1 and MM HAZ.2-2 would still be applicable to this alternative.

Impact HAZ.4 and MM HAZ.4-1 related to sitewide soil sampling and remediation would still be applicable.

Impacts HAZ.3, HAZ.5, and HAZ.6 (schools, airports, emergency response) would be the same as the Project.

Impact HAZ.7 and MM HAZ.7-1 related to wildfire potential and mitigation would also be similar and applicable but with a slight increase as there would be construction activities off site in the dunes area, with a potential for wildfire impacts in that area as well as near the site.

Hydrology and Water Quality

Under the Full Removal of Facilities Alternative, all facilities would be removed except those required due to regulatory requirements. For impact HWQ.1, with respect to potential water quality impacts related to incidental spills of petroleum products and other pollutants during demolition activities, impacts would be incrementally greater under this alternative, as more demolition work would be required. However, similar to the Project, impacts under this alternative would be less than significant with mitigation and MM HAZ.2-1 would apply.

For impact HWQ.1, with respect to erosion, short-term erosion-related water quality impacts associated with the Full Removal of Facilities Alternative would be greater than under the Project, as more ground disturbance would occur. However, impacts associated with the Full Removal of Facilities Alternative would similarly be less than significant, as erosion-related water quality impacts would be reduced to less than significant levels with implementation of a SWPPP and associated BMPs.

For impact HWQ.2 related to seawater intrusion, groundwater quality impacts under the Full Removal of Facilities Alternative would be similar to the Project, as this alternative would not include new (i.e., in addition to the existing Slop Oil Line Release remediation) groundwater remediation activities, thus minimizing the potential for increased seawater intrusion. It is possible that new sources of groundwater contamination may be discovered, as would be the case with the Project and all other alternatives, and impacts of this alternative in that case would be similar to the Project. With respect to groundwater contamination, impacts associated with this alternative would be similar to the Project.

For impacts HWQ.3, HWQ.4, and HWQ.6, with respect to stormwater runoff rates, drainage patterns, flooding and soil absorption, beneficial impacts associated with the Full Removal of Facilities Alternative would occur that would not under the Project, as more impervious surfaces would be removed, resulting in decreased stormwater runoff.

For impact HWQ.5, both the Project and the Full Removal of Facilities Alternative would be completed outside a flood hazard area. Therefore, impacts would be the same under the Project and this alternative.

For impact HWQ.7, with respect to water supply and demand, the Full Removal of Facilities Alternative would require a longer demolition and remediation schedule than the Project, which in turn would require more water for dust suppression. However, because the amount of water

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required for dust suppression for the Project is less than four percent of the recent years' water demand, the incremental increase in water required for dust suppression for the Full Removal of Facilities Alternative would similarly result in beneficial impacts.

For impact HWQ.8, both the Project and this alternative would not be in an area subject to flood impacts. Therefore, impacts would be the same under the Project and this alternative.

Land Use and Planning

Under this alternative, all facilities not designated as required for regulatory purposes would be removed. Under impact LUP.1 related to dividing a community, impacts would be similar to the Project.

Impacts related to particulate emissions policies in the short term (LUP.2) would still apply and would potentially increase as greater areas would be disturbed under this alternative. Mitigation measures AQ.1-1 and AQ.3-1 would still apply. Impacts related to particulate emissions policies in the long term (LUP.3) would still apply and be beneficial. Impacts related to other policies (such as coastal access) (LUP.4) would still apply and be the same as the Project.

Noise

Construction activities under this alternative would be similar to the Project, as the intensity of activities during the peak periods would be the same as the Project. The same peak noise-producing equipment arrangements would occur in the same location as the Project (such as the tank removal, and the pulverizer and rock crusher). However, as the duration of the construction would increase, the number of days when it is noisy from construction activities would increase. Impact NOI.1 related to construction noise, and MM NOI.1-1 and NOI.1-2 would still be applicable. Impacts NOI.2 and NOI.3 (vibration, airports) would also be applicable.

Public Services, Utilities and Service Systems

Under this alternative, all facilities not designated as required for regulatory purposes would be removed. Under impacts PSU.1 through PSU.8, related to fire, police, LMUSD, parks, water supplies, wastewater, and solid waste, impacts would be similar to the Project.

Recreation and Coastal Access

Under this alternative, all facilities not designated as required for regulatory purposes would be removed. Under impacts REC.1 and REC.2, related to parks and recreational facilities, impacts would be similar to the Project.

Transportation

Construction activities under this alternative would be similar to the Project, as the intensity of activities during the peak periods would be the same as the Project. However, as the duration of the construction would increase, the long-term total traffic levels from construction activities would increase. Impact TR.1 related to construction trips, and MM TR.1-1 would still be applicable. Impacts TR.2 and TR.3 (trains, safety) would also be applicable.

Wildfire

As construction activities would occur similar to the Project, but with somewhat longer duration, the risks of wildfire would be marginally increased over the Project as there would be construction

activities off site in the dunes area, with a potential for wildfire impacts in that area as well as near the site, and impacts WF.1, WF.2, and WF.3 (wildfires, infrastructure, slopes/landslides) would be applicable, with MM HAZ.7-1 still applicable.

5.2.3 Removal of Offshore Facilities Alternative

A number of facilities are proposed to remain in place for potential future use. Under this alternative, all of the facilities would remain as proposed in the Project except for the wastewater outfall pipeline, which would be removed. The wastewater outfall line is currently under a lease to the CSLC which expires in 2028. It is subject to a number of lease requirements.

The outfall line status in the future could take a number of routes: 1) near-term removal and termination of the CSLC lease; 2) re-use and transfer of the lease, if another party wants to utilize the outfall line, or 3) allow it to remain in place until lease expiration, at which point the lease could be extended, transferred or terminated with subsequent removal of facilities.

The CSLC lease PRC 1449.1 signed in 2011 is to Phillips 66, not the land, so future abandonment by Phillips 66 would be enforceable by the state. Prior to the expiration of the lease in 2028, the CSLC would require that Phillips 66 prepare a plan indicating either removal or a lease extension/transfer. See Figure 5-2 for the outfall location.

The lease has a number of applicable sections, specifically those listed below:

- Section 2.4 requires annual ROV inspections;
- Section 4.4 indicates required continuous use, and that discontinuance of use after 90 days is considered abandonment of the facilities. Use of the lease shall be continuous;
- Section 11.a.3 defines default of the lease including abandonment; and
- Section 11.c defines remedies for default, including requiring removal of improvements.

Discussion between the County and CSLC indicate that, at this time, the outfall is not considered “abandoned”, but is considered “non-use” status, which is similar to a caretaker status which allows for continued status and does not require removal.

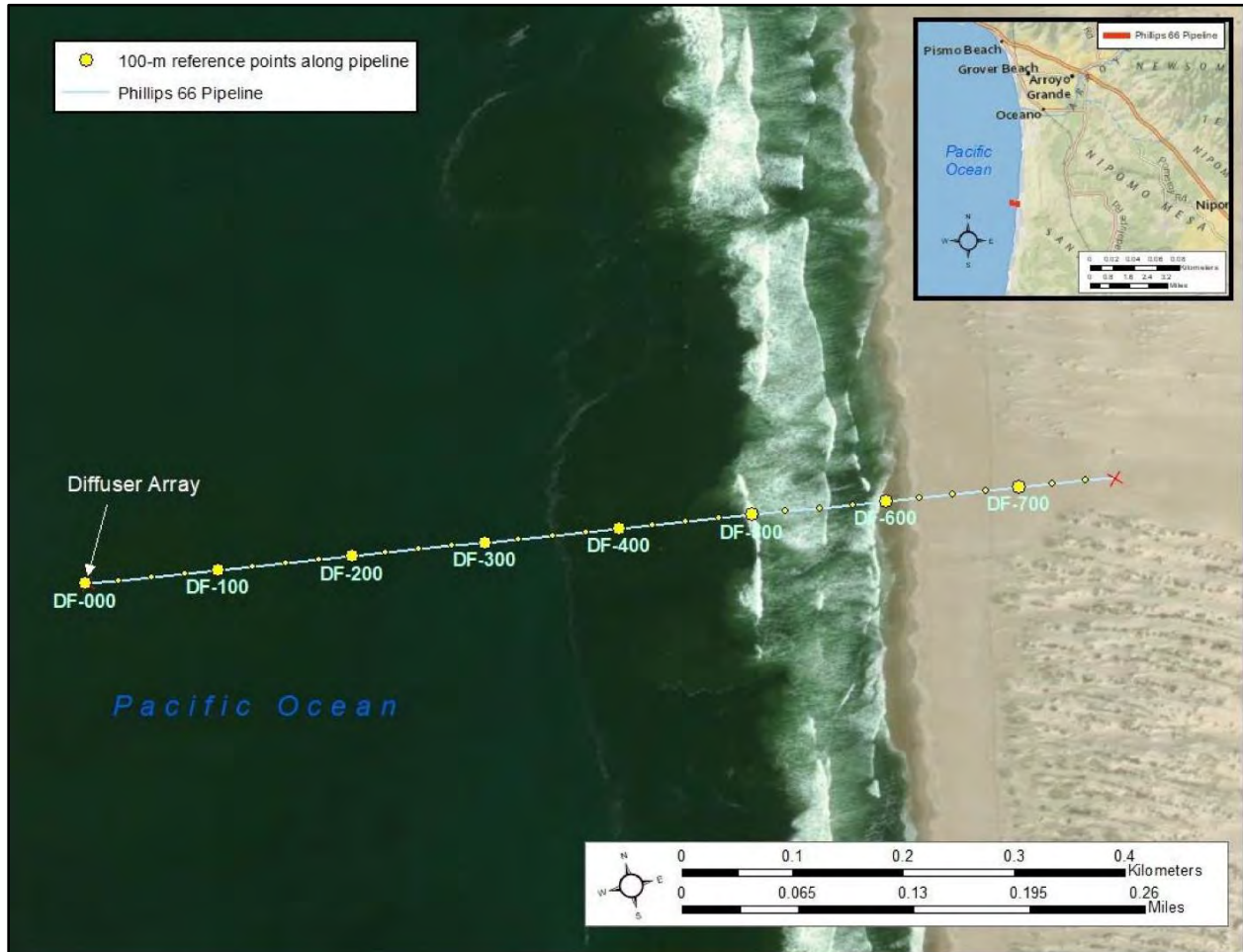
However, as an alternative to the Project, full removal of the outfall line could eliminate potential impacts from outfall line exposure during storm events or shifting sands within the Oceano Dunes State Vehicular Recreation Area. The outfall is subject to annual inspections, and repairs on the diffusion end of the outfall have been recently conducted. Maintenance of the outfall line onshore historically has involved driving the pipeline route and occasional movement of sands with a bulldozer to ensure proper cover by sand.

The outfall is composed of about 12,000 feet of onshore 14-inch pipe, 2,133 feet of offshore 14-inch pipe, and about 40 feet of 10-inch diffuser pipe with an anchor and sled at the end. The diffuser section is equipped with 13 two-inch diameter vertical diffusers standing about three feet tall (eight of which are active and five inactive). The diffuser section sits about 38 feet below the ocean

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surface. At the last inspection, the outfall pipe and lower portions of the vertical diffusers were buried by sand.

Figure 5-2 Outfall Location



Source: Phillips 66 2023

Complete removal (offshore and onshore) of the outfall line would involve the following:

Construction equipment requirements: general construction equipment requirements are estimated to include a dozer (1), front loaders (2), welding trucks (2), and generator sets (1) for removal of the onshore portion of the outfall line. For the removal of the offshore portion of the outfall line, a construction barge and associated tug would also be required along with diving support equipment.

Total tons of materials to be removed: total weight of materials is estimated to be about 445 tons of pipe and miscellaneous materials. Weights are based on pipe weights by size and type/foot and estimates for other materials.

Duration: an additional three weeks are estimated to be required to remove the additional facilities. Note this is a worst case and assumes no overlap in facilities removal (such as offshore and onshore occurring at the same time).

Transportation: movement for onshore materials would total about an additional 23 truck trips, or by rail would total an additional two railcars, and a single barge trip (for offshore materials) to the Port of Los Angeles (POLA) or Port of Long Beach (POLB) disposal areas, such as the SA Recycling facility located at the POLA/POLB, which has metal processing capabilities exceeding 2.5 million tons per year. These trips would be in addition to those proposed for the Project.

Assessment of potential impacts relative to the Project are discussed below for each issue area.

Aesthetics

Under this alternative, additional construction would occur to remove the offshore facilities in addition to the Project-related facilities. Under impacts AE.1, AE.2, and AE.3 (vistas, visual quality and light/glare), as the same prominent aboveground elements of the SMR would be removed as under the Project, impacts to Aesthetic Resources would be similar to the Project. Beneficial impacts would still occur, and the beneficial aspects of the Project would be the same under this alternative.

Agricultural Resources

Under this alternative, additional construction would occur to remove the offshore facilities in addition to the Project-related facilities. Under impacts AG.1, AG.2, AG.3, and AG.4 (farmland conversion, Williamson Act, zoning conflict, conversions), as most of the areas impacted are within the site, impacts would be similar under the Project. Additional impact areas would be to the west of the Project site, in the dunes areas, that are not designated as farmland; therefore, no additional impacts would occur. As this alternative would not result in farmland conversion, Williamson Act impacts, or zoning conflicts, impacts related to Agricultural Resources would be similar under the Project and this alternative. The mitigation measure under AG.4, AQ.1-1 related to fugitive dust impacts, would still apply as remediation and soil movement would occur under this alternative.

Air Quality

Under the offshore removal alternative, additional construction would occur to remove the offshore facilities in addition to the Project-related facilities. Like the Project, the SMR would no longer be operating, and the same activities would be required associated with construction associated with the Project at the onshore areas, and the alternative emissions levels would be reduced over the historical operating scenario. However, most likely the peak day and peak quarter emissions would remain the same under the alternative as the Project and the duration of the activities would be the same as the Project, with offshore and outfall-related onshore activities scheduled for a period when the construction equipment is available for these activities and site-related construction activities are no longer at their peak periods. Peak levels of NO_x + ROG and fugitive dust would therefore be similar to the Project levels. The peak day and quarter emissions impacts from demolition and remediation discussed in impacts AQ.1 and AQ.3 (construction emissions, toxics), would be the same as the Project and associated MM AQ.1-1 and MM AQ.3-1 would be applicable. Some increase in total emissions would occur due to the construction equipment along the outfall line, but these emissions are more remote from receptors and toxic

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cancer risk under impact AQ.3 would remain similar to the Project. Impacts related to AQ.2, operational emissions, would continue to be applicable as some activity would continue on site related to remediation and restoration activities and would be the same as the Project. Impacts related to odors, AQ.4, would continue to potentially occur at the same level as the Project and MM AQ.4-1 would be applicable. Compliance with Plans, AQ.5, would also be similar and MM AQ.5-1 would be applicable.

Biological Resources

Under this alternative, additional construction would occur to remove the offshore facilities in addition to the Project-related facilities. Soil remediation and associated grading would take place to a greater extent than the Project due to the removal of the outfall system. Under impacts BIO.1 through BIO.11 related to protected species and habitat impacts, impacts would be similar but greater than the Project as more soil movement and grading would occur. Mitigation measures associated with impacts BIO.1 through BIO.11 would still apply.

Impacts related to ESHA and ESHA policies (BIO.12, BIO.15) would still apply as some areas that would be required to be remediated under this alternative may have ESHA that could be impacted, and the outfall areas would also have ESHA impacts, and most likely more areas could be impacted. Mitigation measure BIO.12-1 would still apply.

Impacts related to protected trees (BIO.16) would apply as some areas that would be required to be remediated under this alternative may have trees that could be impacted and as more areas would be impacted, the potential for impacts to protected trees would be greater. Mitigation measure BIO.16-1 would still apply.

Impacts related to wetlands, species movement and habitat conservation plans (BIO.13, BIO.14 and BIO.17) would be similar to the Project under this alternative.

Biological Resources (Marine)

Like the full removal alternative above, the removal of outfall pipeline within the marine environment would require some mitigation measures to ensure impacts are not realized. Mitigation measure Alt-Fullremoval-BioMarine.1-1 Preconstruction Survey for Black Abalone would still be applicable, and impacts would remain significant due to uncertainties associated with black abalone relocation efforts.

Cultural and Tribal Cultural Resources

Under this alternative, additional construction would occur to remove the offshore facilities in addition to the Project-related facilities. Soil remediation and associated grading would take place to a greater extent than the Project associated with the outfall areas. Under impacts CT.2 through CT.4 related to archaeological resources, human remains, and tribal impacts, impacts would be similar but greater than the Project as more soil movement and grading would occur. Mitigation measures associated with impacts CT.2, CT.3, and CT.4 would still apply.

Impacts related to historical resources (CT.1) would be similar to the Project under this alternative.

Energy

Energy use under this alternative would be slightly greater than the Project due to the construction equipment use along the outfall line, but overall energy impacts would be similar to the Project. Impacts EN.1 and EN.2 (energy use and standards) would be the same as those under the Project.

Geology and Soils

Under the Removal of Offshore Facilities Alternative, all the facilities would remain as proposed in the Project except for the wastewater outfall pipeline, which would be removed. As described for the Project geologic hazard impacts, including seismically induced ground failure, expansive soils, and coastal erosion, impacts would only be significant if the Project resulted in impacts to the environment. Potential exposure and damage of the wastewater outfall pipeline because of geologic hazards would not be considered an environmental impact. Therefore, impacts related to geologic hazards under impacts GEO.1 and GEO.2 would be similar under the Project and this alternative.

However, under impact GEO.3, short-term erosion-related impacts associated with the Removal of Offshore Facilities Alternative would be greater than under the Project, as more ground disturbance would occur because of outfall pipeline removal. Like the Project, impacts associated with the Full Removal of Facilities Alternative would be less than significant, as erosion-related impacts would be reduced to less than significant levels with implementation of a SWPPP and associated BMPs.

For impacts GEO.4 (expansive soils) and GEO.5 (safety element), impacts associated with the Project would occur similar to this alternative as similar activity would occur. As a result, impacts would be similar under this alternative, but would remain less than significant.

For impact GEO.6, with respect to mineral resources, the Project site does not overlie an area of valuable mineral resources. Therefore, impacts related to mineral resources would be similar under the Project and the Removal of Offshore Facilities Alternative.

Greenhouse Gas Emissions

Under this alternative, peak construction activities would be similar to the Project, but with total emissions increasing somewhat due to the additional activities in order to remove the additional facilities. Impacts GHG.1 and GHG.2 (GHG emissions, GHG Policy) would be the same as the Project.

Hazards and Hazardous Materials

Under this alternative, impacts would be similar to the Project as the potential for contaminated soils handling issues under impact HAZ.1 would be similar. MM HAZ.1-1 would still be applicable.

Potential issues related to accidents would be somewhat greater than the Project as the potential for offshore spills of diesel fuels or hydraulic oils would be introduced by the use of offshore equipment (barges, support vessels), with impact HAZ.2 being somewhat increased and MM HAZ.2-1 and MM HAZ.2-2 being applicable to this alternative.

Impact HAZ.4 and MM HAZ.4-1 related to sitewide soil sampling and remediation would still be applicable.

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Impacts HAZ.3, HAZ.5, and HAZ.6 (schools, airports, emergency response) would be the same as the Project.

Impact HAZ.7 and MM HAZ.7-1 related to wildfire potential and mitigation would also be applicable, but with a slight increase as there would be construction activities off site in the dunes area, with a potential for wildfire impacts in that area as well as near the site.

Hydrology and Water Quality

Under the Removal of Offshore Facilities Alternative, all the facilities would remain as proposed in the Project except for the wastewater outfall pipeline, which would be removed. Short-term erosion-related impacts associated with impact HWQ.1, with the Removal of Offshore Facilities Alternative, would be greater than under the Project, as more ground disturbance would occur because of on land activities associated with outfall pipeline removal and would occur outside of the SMR site. Like the Project, impacts associated with this alternative would be less than significant, as erosion-related impacts on land would be reduced to less than significant levels with implementation of a SWPPP and associated BMPs.

For impacts HWQ.1, with respect to potential water quality impacts related to incidental spills of petroleum products and other pollutants during demolition activities (both on land and offshore), impacts would be incrementally greater under the Removal of Offshore Facilities Alternative, as more demolition work would be required, and some could occur offshore. However, similar to the Project, impacts under the Removal of Offshore Facilities Alternative would be less than significant with mitigation, and MM HAZ.2-1 would apply.

For impact HWQ.2 related to seawater intrusion, groundwater quality impacts under the Removal of Offshore Facilities Alternative would be similar to the Project, as this alternative may not include new (i.e., in addition to the existing Slop Oil Line Release remediation) groundwater remediation activities, thus minimizing the potential for increased seawater intrusion. It is possible that new sources of groundwater contamination may be discovered, as would be the case with the Project and all other alternatives, and impacts of this alternative in that case would be similar to the Project. With respect to groundwater contamination, impacts associated with this alternative would be similar to the Project.

For impacts HWQ.3, HWQ.4, and HWQ.6, with respect to stormwater runoff rates, drainage patterns, flooding and soil absorption, impacts would be similar to the Project under this alternative, as this alternative would result in a similar amount of impervious surfaces and stormwater runoff.

For impact HWQ.5, both the Project and this alternative would be completed outside a flood hazard area. Therefore, impacts would be the same under the Project and this alternative.

For impact HWQ.7, with respect to water supply and demand, this alternative would require an additional three weeks of demolition than the Project, which in turn would require more water for dust suppression. However, because the amount of water required for dust suppression for the Project is less than four percent of the recent years' water demand, incrementally more water

required for dust suppression for the Removal of Offshore Facilities Alternative would similarly result in beneficial impacts.

For impact HWQ.8, both the Project and this alternative would not be in an area subject to flood impacts. Therefore, impacts would be same under the Project and this alternative.

Land Use and Planning

Under this alternative, additional construction would occur to remove the offshore facilities in addition to the Project-related facilities. Under impact LUP.1 related to dividing a community, impacts would be similar to the Project.

Impacts related to particulate emissions policies in the short term (LUP.2) would still apply and would potentially increase as greater areas would be disturbed under this alternative. Mitigation measure AQ.1-1 and AQ.3-1 would still apply. Impacts related to particulate emission policies in the long term (LUP.3) would still apply and be beneficial. Impacts related to other policies (such as coastal access) (LUP.4) would still apply and be the same as the Project.

Noise

Construction activities at the Project site under this alternative would be similar to the Project, as the intensity of activities during the peak periods would be the same as the Project. Offshore activities could also add to the noise levels in the area, but the offshore area is located a substantial distance from any receptors (more than 2.5 miles), thereby making minimal contributions to any noise impacts. Impact NOI.1 related to construction noise and MM NOI.1-1 and NOI.1-2 would still be applicable. Impacts NOI.2 and NOI.3 would also be applicable.

Public Services, Utilities and Service Systems

Under this alternative, additional construction would occur to remove the offshore facilities in addition to the Project-related facilities. Under impacts PSU.1 through PSU.8, related to fire, police, LMUSD, parks, water supplies, wastewater, and solid waste, impacts would be similar to the Project.

Recreation and Coastal Access

Under this alternative, additional construction would occur to remove the offshore facilities in addition to the Project-related facilities. Under impacts REC.1 and REC.2, related to parks and recreational facilities, impacts would be similar to the Project.

Transportation

Construction activities under this alternative would be similar to the Project, as the intensity of activities during the peak periods would be the same as the Project. However, some additional truck trips may be generated from additional construction activities and would impact port areas and the same areas as the Project (Willow Road). These port-related trips would be nominal, and the site trips would remain below the historical baseline. Impact TR.1 related to construction trips and MM TR.1-1 would still be applicable. Impacts TR.2 and TR.3 (trains, safety) would also be applicable.

Wildfire

As construction activities would occur similar to the Project, with somewhat higher intensity during some periods for work offshore, the risks of wildfire would be similar to the Project but with a slight increase as there would be construction activities off site in the dunes area, with a potential for wildfire impacts in that area as well as near the site, and impacts WF.1, WF.2, and WF.3 (wildfires, infrastructure, slopes/landslides) would be applicable, with MM HAZ.7-1 still applicable.

5.2.4 Additional Remediation and Cleanup Alternative

The Project proposes to remediate the site to industrial standards. Site cleanup standards vary depending on the specifics of a site, its proximity to environmental receptors, the depth of the contamination, depth to the groundwater, groundwater use, contaminant types, etc., and must be approved by the Central Coast Water Board. As part of this Project, the cleanup standards for contaminants of concern in soil at a particular site would be based on resolution NO. 92-49. [Policies and Procedures for Investigation and Cleanup and Abatement of Discharges] and may also utilize other tools including the levels provided in the United States Environmental Protection Agency (U.S. EPA) Regional Screening Levels (RSLs) and/or the 2019 San Francisco Bay Regional Water Quality Control Board Tier 1 Environmental Screening Levels (ESLs).

Generally, industrial standards for soil are in the range of 500–1,000 parts per million (ppm) total hydrocarbons. For sites that may have residential development or educational facilities, the cleanup targets are generally stricter, designated as residential/unrestricted use level. Levels down to 100 ppm total hydrocarbons in soil and 1 ppm in water can be prescribed. Central Coast Water Board Environmental Screening Levels Tier 1, for unrestricted use assuming a generic site model, indicate levels down to 100 ppm for lighter petroleum materials (gasoline, etc.) (Phillips 66 2021).

Removal of contaminated soils to a level of 100 ppm associated with this alternative would require the removal of additional soils, generating additional volumes of soil and associated rail cars and truck trips. The additional amount of soil to achieve these cleanup levels is an estimate based on historical sampling and environmental assessments. The NIWS area cleanup, for example, registered about 34 soil sampling sites examining soil TPH concentrations from one to 25 feet deep. Examining the vertical and horizontal gradients of soil concentrations indicates that TPH levels down to 100 ppm from 1000 ppm would extend the plume area at the NIWS out an average of 9.1 feet, with a maximum extension of 21.7 feet based on proximate sampling locations. Applying this to the projected amount of soil that would be excavated as part of the Project discussed in Chapter 2.0, Project Description, would correlate to an increase of about 20 percent in soil volumes, including a safety factor of 2x. However, as there are a lot of uncertainties with projections in soil volumes based on different TPH levels from soil sampling, assuming a worst-case increase of contaminated soils of 50 percent over the Projects estimated 200,500 cubic yards would add approximately 100,000 cubic yards of contaminated soil, producing an additional 125 trains hauling 1,000 rail cars and an additional 500 trucks as well as some additional belowground/hardscape removal/disturbance.

Assessment of potential impacts relative to the Project are discussed below for each issue area.

Aesthetics

Under this alternative, additional construction would occur to remove the additional contaminated soils. Under impacts AE.1, AE.2, and AE.3 (vistas, visual quality and light/glare) as the same prominent aboveground elements of the SMR would be removed as under the Project, impacts to Aesthetic Resources would be similar to the Project. Beneficial impacts would still occur, and the beneficial aspects of the Project would be the same under this alternative.

Agricultural Resources

Under this alternative, additional construction would occur to remove the additional contaminated soils. Under impacts AG.1, AG.2, AG.3, and AG.4 (farmland conversion, Williamson Act, zoning conflict, conversions), as the areas impacted are within the site, impacts would be similar under the Project. As this alternative would not result in farmland conversion, Williamson Act impacts, or zoning conflicts, impacts related to Agricultural Resources would be similar under the Project and this alternative. The mitigation measure under AG.4, AQ.1-1 related to fugitive dust impacts, would still apply as remediation and soil movement would occur under this alternative.

Air Quality

Under this alternative, additional construction would occur to remove the additional contaminated soils. Like the Project, the SMR would no longer be operating, and the same activities would be required associated with demolition and grading construction as with the Project, and the alternative's emissions levels would be reduced over the historical operating scenario. However, most likely the peak day and peak quarter emissions would remain the same under this alternative as under the Project, but the duration of the activities would be extended due to the increased amount of soils needing to be excavated under this alternative. Peak levels of NO_x + ROG and fugitive dust would be similar to the Project levels, but with total levels being higher due to an increased duration. Therefore, the emissions from demolition and remediation discussed in impact AQ.1 (peak emission levels), would be the same as the Project and associated MM AQ.1-1 would be applicable. Impacts related to AQ.2, operational emissions, would continue to be applicable as some activity would continue on site related to remediation and restoration activities.

Impacts related to AQ.3, toxic impacts, would increase under this alternative as total emissions and the alternative duration would increase, thereby increasing toxic cancer risk levels. MM AQ.3-1 would be applicable.

Impacts related to odors, AQ.4, would continue to potentially occur and at a level somewhat higher than the Project as more contaminated soils would be handled. MM AQ.4-1 would be applicable.

Compliance with Plans, AQ.5, would also be applicable and MM AQ.5-1 would be applicable.

Biological Resources

Under this alternative, additional demolition and grading construction would occur to remove the additional contaminated soils. Soil remediation and associated grading would take place to a greater extent than the Project. Under impacts BIO.1 through BIO.11 related to protected species and habitat impacts, impacts would be similar but greater than the Project as more soil movement and grading would occur. Mitigation measures associated with impacts BIO.1 through BIO.11 would still apply.

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Impacts related to ESHA and ESHA policies (BIO.12, BIO.15) would still apply as some areas that would be required to be additionally remediated under this alternative may have ESHA that could be impacted, and most likely more areas could be impacted. Mitigation measure BIO.12-1 would still apply.

Impacts related to protected trees (BIO.16) would apply as some areas that would be required to be additionally remediated under this alternative may have trees that could be impacted and as more areas would be impacted, the potential for impacts to protected trees would be greater. Mitigation measure BIO.16-1 would still apply.

Impacts related to wetlands, species movement and habitat conservation plans (BIO.13, BIO.14 and BIO.17) would be similar to the Project under this alternative.

Cultural and Tribal Cultural Resources

Under this alternative, additional demolition and grading construction would occur to remove the additional contaminated soils. Soil remediation and associated grading would take place to a greater extent than the Project. Under impacts CT.2 through CT.4 related to archaeological resources, human remains, and tribal impacts, impacts would be similar but greater than the Project as more soil movement and grading would occur. Mitigation measures associated with impacts CT.2, CT.3, and CT.4 would still apply.

Impacts related to historical resources (CT.1) would be similar to the Project under this alternative.

Energy

For energy use under this alternative, impacts would be increased compared to the Project, with greater diesel use under this alternative as more construction and earthwork would be required. However, impacts EN.1 and EN.2 (energy use and standards) would be the same as those under the Project.

Geology and Soils

Under this alternative, the soil would be remediated to levels of contamination that would qualify for residential development, which is lower than under the Project, resulting in additional hardscape removal, soil excavation, off-site disposal, and excavation backfill with clean fill. Geologic hazards under impacts GEO.1 and GEO.2 (unstable earth, earthquakes) such as seismically induced ground failure would be similar to those described for the Project.

Under impact GEO.3, short-term erosion-related impacts associated with this alternative would be greater than under the Project, as more ground disturbance would occur in association with increased soil excavations, temporary soil stockpiling, and off-site disposal activities. Like the Project, impacts associated with this alternative would be less than significant, as erosion-related impacts would be reduced to less than significant levels with implementation of a SWPPP and associated BMPs.

Impact GEO.4, related to expansive soils, would be similar to the Project as expansive soils are not an issue at the site.

Impact GEO.5, related to the safety element, would also be similar to the Project for this alternative.

For impact GEO.6, with respect to mineral resources, the Project site does not overlie an area of valuable mineral resources. Therefore, impacts related to mineral resources would be similar under the Project and this alternative.

Greenhouse Gas Emissions

Under this alternative, peak year construction activities would be similar to the Project, but total GHG emissions would increase with the longer duration in activities in order to remove the additional contaminated soils. Impacts GHG.1 and GHG.2 (GHG emissions, GHG Policy) would be similar to the Project.

Hazards and Hazardous Materials

Under this alternative, impacts would be slightly greater than the Project as the potential for contaminated soils handling issues under impact HAZ.1 would marginally increase with the increased contaminated soil movement. MM HAZ.1-1 would still be applicable.

Impact HAZ.2 related to upset hazards would be similar to the Project and MM HAZ.2-1 MM HAZ.2-2 would be applicable to this alternative.

Impact HAZ.4 and MM HAZ.4-1 related to sitewide soil sampling and remediation would still be applicable.

Impacts HAZ.3, HAZ.5, and HAZ.6 (schools, airports, emergency response) would be the same as the Project. Impact HAZ.7 and MM HAZ.7-1 related to wildfire potential and mitigation would also be applicable and similar to the Project.

Hydrology and Water Quality

Under this alternative, the soil would be remediated to lower levels of contamination than under the Project, resulting in additional soil excavation, off-site disposal, and excavation backfill with clean fill. For impact HWQ.1, short-term erosion-related water quality impacts associated with this alternative would be greater than under the Project, as more ground disturbance would occur in association with increased soil excavations, temporary soil stockpiling, and off-site disposal activities.

For impact HWQ.1, with respect to potential water quality impacts related to incidental spills of petroleum products and other pollutants during demolition activities, impacts would be incrementally greater under this alternative, as more soil remediation would be required. However, similar to the Project, impacts under the Additional Remediation and Cleanup Alternative would be less than significant with mitigation, and MM HAZ.2-1 would apply.

For impact HWQ.2 related to seawater intrusion, groundwater quality impacts under the Additional Remediation and Cleanup Alternative would be similar to the Project, as this alternative may not include new (i.e., in addition to the existing Slop Oil Line Release remediation) groundwater remediation activities, thus minimizing the potential for increased seawater intrusion. It is possible that new sources of groundwater contamination may be discovered, as would be the case with the Project and all other alternatives, and impacts of this alternative in that case would be similar to the Project.

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For impacts HWQ.3, HWQ.4, and HWQ.6, with respect to stormwater runoff rates, drainage patterns, flooding and soil absorption, impacts associated with this alternative would be similar to that under the Project, as similar amounts of impervious surfaces would remain, resulting in similar stormwater runoff.

For impact HWQ.5, both the Project and this alternative would be completed outside a flood hazard area. Therefore, impacts would be the same under the Project and this alternative.

For impact HWQ.7, with respect to water supply and demand, this alternative would require a longer remediation schedule than the Project, which in turn would require more water for dust suppression. However, because the amount of water required for dust suppression for the Project is less than four percent of the recent years' water demand, the incremental increase in water required for dust suppression for this alternative would similarly result in beneficial impacts.

For impact HWQ.8, both the Project and this alternative would not be in an area subject to flood impacts. Therefore, impacts would be same under the Project and this alternative.

Land Use and Planning

Under this alternative, additional construction would occur to remove the additional contaminated soils. Under impact LUP.1 related to dividing a community, impacts would be similar to the Project.

Impacts related to particulate emission policies in the short term (LUP.2) would still apply and would potentially increase as greater areas would be disturbed under this alternative. Mitigation measures AQ.1-1 and AQ.3-1 would still apply. Impacts related to particulate emission policies in the long term (LUP.3) would still apply and be beneficial. Impacts related to other policies (such as coastal access) (LUP.4) would still apply and be the same as the Project.

Noise

Peak level construction activities under this alternative would be similar to the Project, as the intensity of activities during the peak periods would be the same as the Project. The same peak noise-producing equipment arrangements would occur in the same location as the Project (such as the tank removal, and the pulverizer and rock crusher). However, as the duration would be longer than the Project, there might be more days that are noisy than the Project. Impact NOI.1 related to construction noise and MM NOI.1-1 and NOI.1-2 would still be applicable. Impacts NOI.2 and NOI.3 (vibration, airports) would also be applicable.

Public Services, Utilities and Service Systems

Under this alternative, additional construction would occur to remove the additional contaminated soils. Under impacts PSU.1 through PSU.8, related to fire, police, LMUSD, parks, water supplies, wastewater, and solid waste, impacts would be similar to the Project.

Recreation and Coastal Access

Under this alternative, additional construction would occur to remove the additional contaminated soils. Under impacts REC.1 and REC.2, related to parks and recreational facilities, impacts would be similar to the Project.

Transportation

Peak level construction activities under this alternative would be similar to the Project, as the intensity of activities during the peak periods would be the same as the Project. However, as the duration of the construction would increase, the long-term total traffic levels from construction activities would increase. Impact TR.1 related to construction trips, and MM TR.1-1 would still be applicable. Impacts TR.2 and TR.3 (trains, safety) would also be applicable.

Wildfire

As peak level construction activities would occur similar to the Project, but with somewhat longer duration, the risks of wildfire would be similar to the Project and impacts WF.1, WF.2, and WF.3 (wildfires, infrastructure, slopes/landslides) would be applicable, with MM HAZ.7-1 still applicable.

5.2.5 Conservative Removal of Facilities Alternative

This alternative would involve the removal of all belowground infrastructure and grading of a high percentage of the site and revegetation of those graded areas. Some areas would remain “hardscaped”, including gravel and crushed concrete within Area 3 (20.7 acres, see Figure 2-3), for potential future use, and the items proposed to remain related to regulatory requirements (monitoring wells) and other potential future use infrastructure (rail spur, electrical systems, wastewater outfall, etc.) would also remain, the same as the Project. This is equivalent to the Project that was described in the Notice of Preparation (NOP).

A number of facilities under the Project are proposed to remain in place for potential future use or due to regulatory requirements. Under this alternative, all of the facilities proposed to be retained as part of the Project would also be retained, except for the majority of surface hardscape and all belowground infrastructure, which would be removed. Grading to fill and recontour most of the remediation and demolition areas would also be conducted with associated revegetation. Appendix A sheet 10B shows the areas of the site that would be graded. Only Area 3 would remain hardscaped for potential future use. About 81 percent of the site would be graded and vegetated as opposed to the current level and Project level of 49 percent of the site vegetated.

Removal of these additional facilities could feasibly utilize the extensive set of construction equipment already proposed for demolition and remediation associated with the Project. As this alternative would require that a substantial amount of additional grading and soil movement, and additional truck or rail trips would be utilized in order to remove these facilities, this alternative assumes that additional equipment would be utilized and that the timing would be similar to the Project. This is different than the Full Removal alternative or the Additional Remediation alternative above which assume a similar level of equipment as the Project but a longer duration.

The following sections address the belowground activities associated with this alternative. The aboveground activities would be the same as the Project.

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5.2.5.1 Conservative Removal Alternative Debris and Waste Management

Belowground demolition and remediation waste types include concrete, asphalt, general construction and demolition mixed debris, regulated materials (e.g., asbestos) and waste soil. Table 5.2 provides the estimated types, weight, and volume of belowground demolition and remediation waste streams for the Conservative Removal Alternative.

Area 3 under this alternative is the only area to have hardscape to remain. Concrete and asphalt suitable for on-site reuse would be downsized/crushed and reused on site in Area 3 to the extent practical. As per the Project, a portable concrete crusher unit with a dedicated backhoe and an asphalt pulverizer would be staged at an existing refinery staging area. Off-road heavy equipment trucks would transport materials from the demolition sites to the crusher and pulverizer units.

As per the Project, excavated soil would be tested and handled in accordance with applicable procedures. Clean soil generated during excavation would be segregated and stockpiled for use as backfill. Impacted soil would be hauled to a centralized staging area near the rail spur. Remediation would generate an estimated volume of 200,500 cubic yards of waste soil.

Actual quantities of materials to be transported off site would be documented with truck and weight tickets for each load.

Material transport would occur regularly throughout the belowground demolition and remediation activities. As presented in Table 5.3, the number of truck trips would range from 15 to 55 trips per week during a period of overlapping aboveground and belowground demolition and remediation. As noted above, remediation would continue after completion of demolition; however, once demolition is completed, the overall site activity and off-site hauling activity would be less intensive.

5.2.5.2 Conservative Removal Alternative Belowground Demolition and Remediation Disposal Facilities

Table 5.3 lists the belowground demolition and remediation waste materials, estimated haul trips, and the primary disposal locations, as well as hauling distance and haul routes for the waste materials. Assumptions related to percentage of materials not reuseable on site or not suitable for hauling via train are the same as the Project. Clean soil would continue to be reused on site as backfill and for final contouring.

Table 5.2 Conservative Removal Alternative - Belowground Demolition and Remediation Waste and Recyclable Material Volumes and Off-Site Haul Loads

Material	Classification	Volume (Cubic Yards)	Weight (Tons)	Off-Site Haul Truck or Rail Loads ^a
Concrete ^b	Recyclable material	20,650	41,300	Concrete would be crushed and reused on site. An assumed 10% of belowground concrete may not be suitable for reuse and would be hauled off site.

Table 5.2 Conservative Removal Alternative - Belowground Demolition and Remediation Waste and Recyclable Material Volumes and Off-Site Haul Loads

Material	Classification	Volume (Cubic Yards)	Weight (Tons)	Off-Site Haul Truck or Rail Loads ^a
Asphalt ^b	Recyclable material	18,650	37,300	Asphalt would be crushed and reused on site. An assumed 10% may not be suitable for reuse and would be hauled off site.
Mixed debris ^c	C&D (partially eligible for recycling)	3,350	2,500	Mixed debris would be transported to a transfer station for sorting
Impacted soil off site ^d	Regulated waste (not eligible for recycling/reuse)	200,500	300,750	Impacted soil off site would be transported by rail to a landfill. An assumed 5% may be transported by truck
Total waste generated		243,150	381,850	
Total truckloads transported off site			85–1,485	
Total rail car loads transported off site			1,905–2,005	
Recyclable Waste breakdown		Cubic Yards		
Total waste generated eligible for recycling		42,650		
Total volume of mixed debris available for sorting and recycling		3,350		
Total mixed debris recycled at 65% recovery rate		2,178		
Total concrete and asphalt recycled		39,300		
Total quantity of materials recycled		41,478		
Percentage of materials generated to be recycled		97%	Recyclable material excludes regulated waste	

Notes: ^a Excludes on-site material hauling. Peak day air quality emissions assume 37 off-site truck trips during the peak day for all combined materials. ^b For conservative planning purposes, this analysis assumes that most of the asphalt roads within the fence line would be removed.

C&D = construction and demolition

Source: Phillips 66 Application

Table 5.3 Conservative Removal Alternative Belowground Demolition and Remediation Waste Hauling Destinations

Waste Material	Truck and Rail Haul Trips ^a	Disposal Transportation Mode and Destination	One-way Off-Site Truck Haul Distance ^b (Miles)	Transport Route
Crushed Concrete	Truck trips: 0–210c	By truck to Gator Crushing and Recycling 2363 Willow Road Arroyo Grande, California 93420 (if not reused on site)	Truck trips: 0.4	Willow Road facility exit to 2363 Willow Road, Arroyo Grande (adjacent to the SMR)

5.0 Alternatives

Table 5.3 Conservative Removal Alternative Belowground Demolition and Remediation Waste Hauling Destinations

Waste Material	Truck and Rail Haul Trips ^a	Disposal Transportation Mode and Destination	One-way Off-Site Truck Haul Distance ^b (Miles)	Transport Route
Crushed Asphalt	Truck trips: 0–190 ^c	By truck to Gator Crushing and Recycling 2363 Willow Road Arroyo Grande, California 93420 (if not reused on site)	Truck trips: 0.4	Willow Road facility exit to 2363 Willow Road, Arroyo Grande (adjacent to the SMR)
Mixed debris	Truck trips: 85	By truck to Santa Maria Transfer Station 325 Cuyama Lane Highway 166 Nipomo, California 93444	Truck trips: 11.4	Willow Road to U.S. 101 south to Cuyama Lane
Soil	Rail cars: 1,905-2,005 Truck trips: 0–1,000 ^d	By rail to Republic Services ECDC Landfill, East Carbon City Utah By truck to Waste Management, 56533 Highway 58 West McKittrick, California 93251	Truck trips: 128.0	Rail: Union Pacific interstate rail Truck: via Willow Road to U.S. 101 north, SR 46/41 east, SR 33 south to 2nd Street

Notes: ^a This information is from Phillips 66 Application materials.

^b Haul distances are measured from the SMR entry/exit points at Willow Road. Excludes on-site hauling.

^c Concrete and asphalt would be crushed and reused on site. For planning purposes, it is assumed that up to 10% of this crushed material would not be reusable on site and would be transported to an off-site handling facility.

^d Impacted soil would be hauled by train. For planning purposes, it is assumed that up to 5% of impacted soil would be hauled by truck to a regional waste management facility.

SMR = Santa Maria Refinery.

Source: Phillips 66 Application

For the alternative, the waste hauling trucks would use the existing designated haul route between the SMR entry/exit and the Willow Road/U.S. Highway 101 interchange, as described for the Project.

5.2.5.3 Conservative Removal Alternative Refinery Trips and Designated Truck Route

An estimated maximum of 92 haul truck trips per week would occur during a period of combined aboveground and belowground demolition and remediation; under this scenario, peak activity would occur during Month 6 during a period of overlapping demolition and remediation. In the event a greater volume of these materials must be hauled by truck, there would be additional trips. As with the Project, in this case, overall truck trips would be managed to remain under the baseline of 37 trucks per day.

5.2.5.4 Conservative Removal Alternative Water Supply and Demand

Water use would increase over the Project as additional areas would be graded and require additional water for dust control.

5.2.5.5 Conservative Removal Alternative Workforce Commutes During Combined Demolition and Remediation

An estimated maximum of 45 workers would be on site during a period of combined aboveground and remediation activities. Remediation work crews would commute to the site from throughout the region, depending on the selection of contractors at the time of the work.

5.2.5.6 Conservative Removal Alternative Post-Remediation Grading Contouring, and Restoration Approach

Existing vegetation that has been designated as Environmentally Sensitive Habitat Areas (ESHA) would remain intact unless an area needs to be disturbed to accomplish subsurface demolition or remediation. In these cases, the disturbed area would be backfilled with available site material (including native material and segregated topsoil) and the surface would be revegetated with an appropriate seed mix.

At completion of demolition and remediation in a given area, the work site would be backfilled to the contour as defined by the grading plans (see Appendix A). Backfill material would be sourced from suitable on-site materials to be identified within the detailed grading plan (primarily Area 6, Coke Storage).

Hardscape is defined as concrete, asphalt, compacted base/gravel, or asphalt emulsion coating covering banks and berms (see Appendix A for a map of existing hardscapes). No new areas would be hardscaped. Only hardscapes in Area 3 would remain intact and areas along perimeter roadways.

In general, all disturbance areas would be stabilized in order to reduce the potential for fugitive dust, either by hardscaping (in Area 3) or by revegetation. For areas that are revegetated, the appropriate plant palettes and seed mixes would be selected during the detailed planning phase.

5.2.5.7 Conservative Removal Alternative Preliminary Grading Plan, Site Contour, and Restoration

Phillips 66 prepared a Preliminary Grading Plan that shows the Conservative Removal Alternative conceptual view of the final surface conditions after demolition and remediation of the SMR site (see Appendix A). In this scenario, most of the existing hardscape and belowground infrastructure would be removed and final grading and recontouring would be more extensive than the Project.

Conservative Removal Alternative Earthwork Calculations

The estimated cumulative totals of earthwork to establish the anticipated total volume of earth moved on or off the site under the conservative grading scenario are shown in Table 5.4 and in Appendix A.

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Table 5.4 Expected Planning Scenario Cut and Fill by Area, cubic yards

Description	All Materials Volume, CY	Soil Only Volume, CY
<i>Cut</i>		
Remediation Soil (exported)	200,500	200,500
Native Soil from Area 6	0*	0*
Native Soil Recontouring	476,500	476,500
Miscellaneous concrete/asphalt export	5,820	-
Total Cut	682,820	677,000
<i>Fill</i>		
Native Soil from Area 6	0*	0*
Native soil Recontouring	476,500	476,500
Misc debris	37,570	-
Total Fill	514,070	476,500
Total cut and fill	1,196,890	1,153,500

Notes: * included in recontouring numbers; CY = cubic yards

Source: Phillips 66 Application grading plans sheet 1A

The Conservative Removal Alternative grading plans employed the following working assumptions:

- The site is delineated into seven (7) demolition and remediation sub-areas as shown on Preliminary Grading Plan Sheet 7. Demolition and remediation would occur in a systematic manner within these sub-areas while minimizing double handling of material;
- Each work area would be graded where feasible to include a basin to retain stormwater within the work sub-areas and within the overall Project site consistent with current drainage patterns as shown on Preliminary Grading Plan Sheet 18;
- Certain hardscape areas may remain for potential future development by others as shown on Preliminary Grading Plan (Attachment A); these areas are beyond 100 feet of County-designated Unmapped ESHA and are primarily in Area 3.
- All crushed concrete and asphalt would be re-used as fill material in the Coke Storage Area as indicated in the Grading Table on Preliminary Grading Plan Sheet 1 or as hardscape in Area 3;
- Where possible the site would be recontoured to mimic slopes and drainages consistent with the adjacent undisturbed areas while facilitating potential future beneficial uses given the current industrial zoning of the site;
- Roadways would be maintained to allow access to existing water supply and groundwater monitoring wells and other infrastructure to remain post-grading; and
- Revegetation would be appropriate to the site given the existing sandy soils and dust-prone conditions similar to the Oceano Dunes; no topsoil is proposed to be imported.

Belowground facilities proposed to remain include buried pipelines to be abandoned in place within the fence line. No septic systems, leachfields, storm drains, or other existing storm system infrastructure are proposed to remain.

5.2.5.8 Conservative Removal Alternative Post-Remediation Condition

The facilities that would remain after remediation would include the same facilities associated with the Project except the following:

- Hardscapes would be removed (concrete, asphalt, compacted base/gravel, or asphalt emulsion coating) outside of Area 3 except for roadways and immediately adjacent areas.

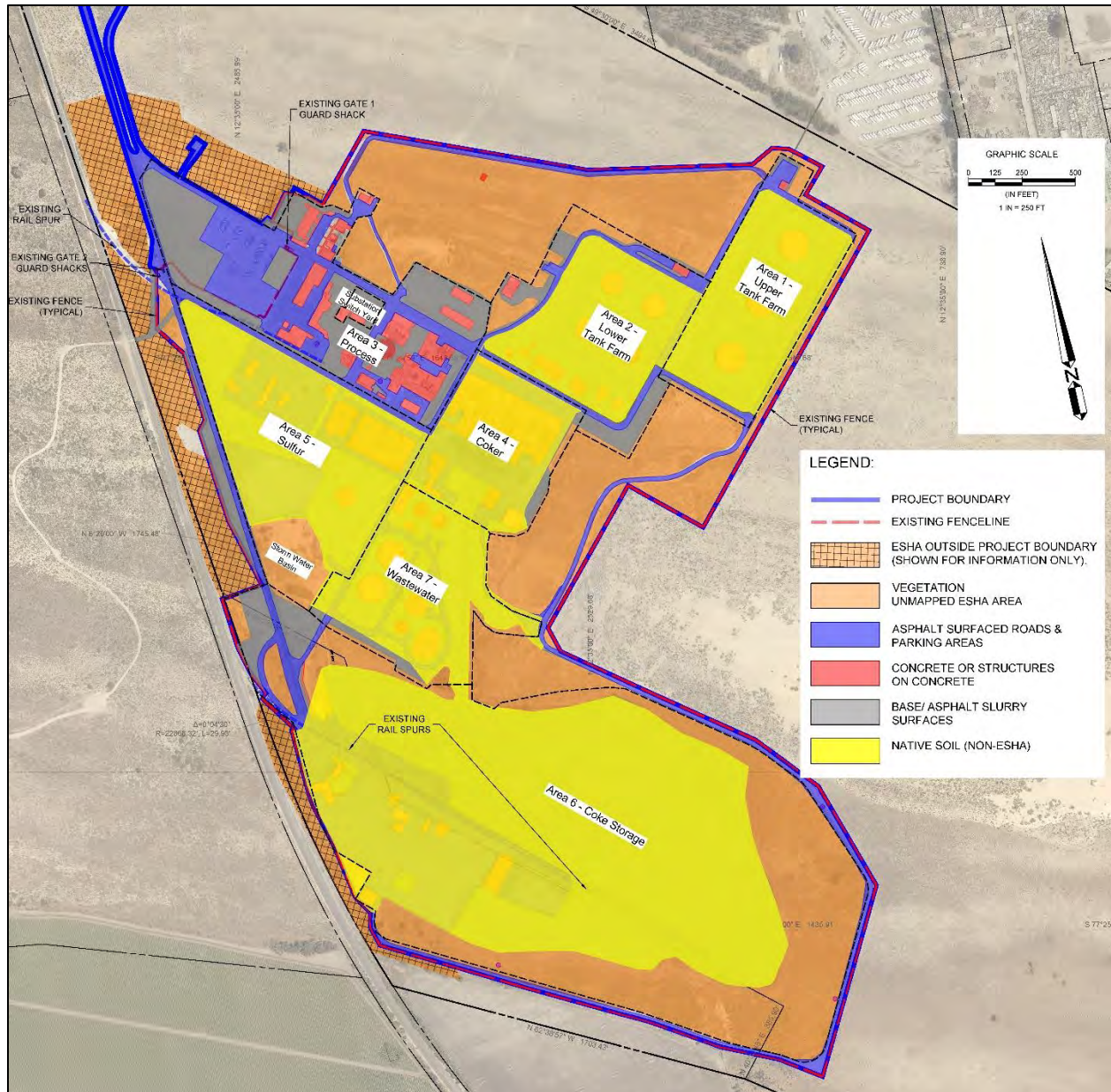
Phillips 66 provided a high-end estimate of potential earthwork activity in order to provide a conservative basis for estimating construction activity and associated air emissions. Figure 5-3 shows the resulting hardscapes and ESHA and vegetated areas with this alternative. Table 5.5 shows the resulting site areas for the Conservative Removal Alternative, with a total of 81 percent of the Project site vegetation and native soils (revegetated).

Table 5.5 Conservative Removal Alternative Refinery Area by Type

Area Type	Area, acres
Asphalt-surfaced roads and parking areas	22.4 (16.0 inside fence line 6.4 outside fence line)
Concrete or structures on concrete slab	4.1
Stabilized with base or asphalt slurry	14.8 11.7 inside fence line 3.1 outside fence line
Vegetation ESHA	66.1
Native soil/revegetated areas	110.3
Total	217.7 total 208.2 inside fence line 9.5 outside fence line

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Figure 5-3 Conservative Removal Alternative Hardscape and ESHA Areas



Note: native soil areas would be revegetated.

Source: Phillips 66 Application

5.2.5.9 Conservative Removal Alternative Project Activities: Site Stabilization and Restoration

Disturbance areas would be stabilized in order to reduce the potential for fugitive dust. Where hardscape is removed, the disturbed area would be replaced with hardscape only in Area 3. No new areas would be hardscaped. All other areas would be graded and revegetated.

Where vegetation is proposed, the area would be restored with appropriate soil stabilizers, plant palettes, and seed mixes that would be selected during the detailed planning phase. This effort would be the same as the Project except that additional areas would be revegetated.

5.2.5.10 Potential Impacts of the Alternative

Assessment of potential impacts relative to the Project are discussed below for each issue area.

Note that some efficiencies could be gained through removal of all belowground infrastructure, thereby reducing the equipment requirements listed above, the duration, and even the transportation requirements, for both the Project demolition and the additional facilities under this alternative, simultaneously, but these estimates above address the potential range of efforts.

Aesthetics

Under this alternative, additional construction would occur to remove the additional belowground facilities. Under impacts AE.1, AE.2, and AE.3 (vistas, visual quality and light/glare), as the same prominent aboveground elements of the SMR would be removed as under the Project, impacts to Aesthetic Resources would be similar to the Project. Beneficial impacts would still occur, and the beneficial aspects of the Project would be the same under this alternative.

Agricultural Resources

Under this alternative, additional construction would occur to remove the additional belowground facilities. Under impacts AG.1, AG.2, AG.3, and AG.4 (farmland conversion, Williamson Act, zoning conflict, conversions), as the areas impacted are within the site, impacts would be similar under the Project. As this alternative would not result in farmland conversion, Williamson Act impacts, or zoning conflicts, impacts related to Agricultural Resources would be similar under the Project and this alternative. The mitigation measure under AG.4, AQ.1-1 related to fugitive dust impacts, would still apply as remediation and soil movement would occur under this alternative.

Air Quality

Under the Conservative Removal Alternative, additional construction would occur to remove the additional belowground facilities and, unlike the other alternatives related to full removal or additional remediation, the Applicant indicates that additional equipment would be utilized. Like the Project, the SMR would no longer be operating, and the alternative's emissions levels would be reduced over the historical operating scenario. While total emissions would increase compared to the Project, due to the changes in intensity of construction activities, the peak day and peak quarter emissions would also increase relative to the Project.

Peak levels of NO_x + ROG and fugitive dust would increase relative to the Project levels. The emissions levels are shown in Table 5.6 and Table 5.7 and summarized relative to the thresholds in Table 5.8 below.

The emissions from demolition and remediation, discussed under Project impact AQ.1, would increase over the Project, but would still be below the thresholds with the inclusion of the baseline operating refinery emissions. MM AQ.1-1 would be still applicable.

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Impacts related to AQ.2, operational emissions, would continue to be applicable as some activity would continue on site related to remediation and restoration activities.

Impact AQ.3, related to toxic emissions, would increase over the Project as total emissions of toxic materials would increase. MM AQ.3-1 would be applicable.

Impacts related to odors, AQ.4, would continue to potentially occur at the same level as the Project.

Compliance with Plans, AQ.5, would also be applicable and MM AQ.5-1 would be applicable.

Table 5.6 Conservative Removal Alternative Peak Quarter Emissions, Tons/Quarter with Mitigation

Activity	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO _x	DPM
Demolition and Remediation							
Construction Equipment	1.82	0.11	0.03	0.02	2.80	0.03	0.03
Construction Fugitive Dust			0.94	0.10			
Total On-site	1.82	0.11	0.97	0.12	2.80	0.03	0.03
Off-site Hauling							
Off-site Hauling: Trucks	0.51	0.01	0.01	0.01	0.03	0.00	0.00
Off-site Hauling: Trucks Fugitive Dust			0.59	0.15			
Off-site Hauling: Rail	0.09	0.00	0.00	0.00	0.03	0.00	0.00
Total Off-site	0.60	0.01	0.61	0.15	0.06	0.00	0.01
Peak Quarter Total	2.42	0.12	1.58	0.27	2.86	0.03	0.04
Peak Quarter On-site, NO _x + ROG	1.93						
Peak Quarter Off-site, NO _x + ROG	0.61						
Peak Quarter Total NO _x + ROG	2.54						
Peak Quarter Total Fugitive Dust On-site	0.94						
Peak Quarter Total Fugitive Dust	1.53						

Table 5.7 Conservative Removal Alternative Daily Emissions, Pounds/Day with Mitigation

Activity	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO _x	DPM
Demolition and Remediation							
Construction Equipment	55.60	3.26	0.82	0.77	86.40	0.16	0.82
Construction Fugitive Dust			29.20	3.15			
Total On-site	55.60	3.26	30.02	3.92	86.40	0.16	0.82
Off-site Hauling							
Off-site Hauling: Trucks	46.07	0.61	0.99	0.49	2.61	0.09	0.27
Off-site Hauling: Trucks Fugitive Dust			52.62	12.92			
Off-site Hauling: Rail	3.96	0.15	0.09	0.08	1.43	0.01	0.09
Total Off-site	50.03	0.76	53.70	13.49	4.04	0.09	0.36
Daily Total	4.02	83.72	17.41	90.44	0.25	1.18	0.00

Table 5.7 Conservative Removal Alternative Daily Emissions, Pounds/Day with Mitigation

Activity	NO _x	ROG	PM ₁₀	PM _{2.5}	CO	SO _x	DPM
Peak Daily On-site, NO _x + ROG	58.86						
Peak Daily Off-site, NO _x + ROG	50.79						
Peak Daily, NO _x + ROG	109.65						

Notes: Fugitive dust is not utilized for daily thresholds, so it is not shown in the daily summary. Also includes the use of Tier 4 engines as part of mitigation under impact AQ.3.

Table 5.8 Conservative Removal Alternative Project Construction Emission Thresholds within the County Summary with Mitigation

Pollutant	SLOCAPCD Thresholds			Project Construction Only		Project Construction Change Over Baseline	
	Daily Pounds	Quarterly		Daily, pounds	Quarterly, tons	Daily, pounds	Quarterly, tons
		Tier 1 tons	Tier 2 tons				
ROG + NO _x	137	2.5	6.3	141.38	3.59	-444	-22.6
Diesel Particulate Matter	7.0	0.13	0.32	1.28	0.04	-0.05	-0.02
Fugitive Dust Particulate Matter (PM ₁₀)	-	2.5	-	-	2.32/1.70*	-	-4.06/1.58*

Notes: * Total on-site plus off-site/on-site only.

Source is CalEEMod. See Appendix B for CalEEMod output files and more detailed calculations. Applicant report with modifications.

Note the emissions levels above include the use of the mitigation measures for dust control (MM AQ.1-1) and clean engines (MM AQ.3-1).

The emissions from construction activities changes from historical emissions would not exceed the SLOCAPCD thresholds for the daily or quarterly emissions of NO_x and ROG, or the daily or quarterly emissions of diesel particulate matter (DPM). The historical emissions operations of the refinery produced large amounts of NO_x and ROG and therefore there would be a net reduction in these emissions associated with the with alternative as well as with the Project.

Fugitive dust would also be below the thresholds (with mitigation). On-site only particulate emissions is not specifically delineated as a threshold by the SLOCAPCD; however, as the Nipomo Mesa experiences periods of particulate impacts that are severe, the potential contribution of the Project to these particulate levels is a potential issue. As there is an increase in on-site particulate emissions on-site and the area is very susceptible to particulate impacts historically, given the correct conditions, construction on-site particulate emissions could produce a significant impact. Therefore, MM AQ.1-1 and AQ.3-1 would be applicable.

See Section 4.11, Land Use and Planning, for a discussion of polices related to particulate emissions on the Nipomo Mesa.

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Biological Resources

Under this alternative, additional construction would occur to remove the additional belowground facilities. Soil remediation and associated grading would take place to a greater extent than the Project. Under impacts BIO.1 through BIO.11 related to protected species and habitat impacts, impacts would be similar but greater than the Project as more soil movement and grading would occur. Mitigation measures associated with impacts BIO.1 through BIO.11 would still apply.

Impacts related to ESHA and ESHA policies (BIO.12, BIO.15) would still apply as some areas that would be additionally disturbed under this alternative may have ESHA that could be impacted, and most likely more areas could be impacted. Mitigation measure BIO.12-1 would still apply.

Impacts related to protected trees (BIO.16) would apply as some areas that would be required to be additionally disturbed under this alternative may have trees that could be impacted and as more areas would be impacted, the potential for impacts to protected trees would be greater. Mitigation measure BIO.16-1 would still apply.

Impacts related to wetlands, species movement and habitat conservation plans (BIO.13, BIO.14 and BIO.17) would be similar to the Project under this alternative.

Cultural and Tribal Cultural Resources

Under this alternative, additional construction would occur to remove the additional belowground facilities. Soil remediation and associated grading would take place to a greater extent than the Project. Under impacts CT.2 through CT.4 related to archaeological resources, human remains, and tribal impacts, impacts would be similar but greater than the Project as more soil movement and grading would occur. Mitigation measures associated with impacts CT.2, CT.3, and CT.4 would still apply.

Impacts related to historical resources (CT.1) would be similar to the Project under this alternative.

Energy

For energy use under this alternative, impacts would increase over the Project, with greater diesel use under this alternative as more construction would be required. However, impacts EN.1 and EN.2 (energy use and standards) would be the same as those under the Project.

Geology and Soils

As with the Project, abandonment of the facilities under this alternative would entail removal of all belowground facilities and more grading. Under impacts GEO.1 and GEO.2, impacts related to geologic hazards would be similar under the Project and the Full Removal of Facilities Alternative.

For impact GEO.3, with respect to erosion, short-term erosion-related impacts associated with this alternative would be greater than under the Project, as more ground disturbance would occur. However, impacts associated with this alternative would similarly be less than significant, as erosion-related impacts would be reduced to less than significant levels with implementation of a SWPPP and associated BMPs.

Impact GEO.4, related to expansive soils, would be similar to the Project as expansive soils are not an issue at the site.

Impact GEO.5, related to the safety element, would also be similar to the Project for this alternative.

For impact GEO.6, with respect to mineral resources, the Project site does not overlie an area of valuable mineral resources. Therefore, impacts related to mineral resources would be similar under the Project and the Conservative Removal Alternative.

Greenhouse Gas Emissions

Under this alternative, construction activities would be greater than the Project in order to remove the additional facilities. Emissions of GHG at the SMR site associated with the demolition and remediation (impact GHG.1) and along the transportation routes would result from on-site activities (construction equipment, etc.), vehicles (truck deliveries of materials and hauling), and locomotives (to haul materials). Appendix C shows the GHG emissions associated with the alternative, both within County and within California. Total amortized GHG emissions (amortized over 25 years as per the SLOCAPCD Guidelines) totals 1,091 MTCO₂e per year within California (442 MTCO₂e amortized within the County) associated with only the demolition and remediation activities. This includes emissions at the Project site as well as emissions from transportation of materials.

The operations of the SMR historically have produced a substantial amount of GHG emissions, being one of the largest contributors to GHG emissions within the County as indicated in the environmental setting discussion in Section 4.8, Greenhouse Gas Emissions. There would therefore be a net reduction in GHG emissions within the County compared to the baseline for this alternative.

Impact GHG.2 (GHG policy) would be similar to the Project.

Hazards and Hazardous Materials

Under this alternative, impact HAZ.1 related to routine exposure would be similar to the Project as the potential for contaminated soils handling issues under impact HAZ.1 would be similar as the same amount of contaminated soils would be removed. MM HAZ.1-1 would still be applicable.

Potential accidental issues would be the same as the Project, with impact HAZ.2 being the same and MM HAZ.2-1 and MM HAZ.2-2 being applicable to this alternative.

Impact HAZ.4 and MM HAZ.4-1 related to sitewide soil sampling and remediation would still be applicable.

Impacts HAZ.3, HAZ.5, and HAZ.6 (schools, airports, emergency response) would be the same as the Project.

Impact HAZ.7 and MM HAZ.7-1 related to wildfire potential and mitigation would be the same as the Project, and MM HAZ.7-1 would still be applicable.

Hydrology and Water Quality

Under this alternative, all belowground facilities would be removed, and the site would be graded in most areas (except Area 3).

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For impact HWQ.1, with respect to potential water quality impacts related to incidental spills of petroleum products and other pollutants during demolition activities, impacts would be incrementally greater under this alternative, as more demolition work would be required. However, similar to the Project, impacts under this alternative would be less than significant with mitigation and MM HAZ.2-1 would apply.

For impact HWQ.1, with respect to erosion, short-term erosion-related water quality impacts associated with this alternative would be greater than under the Project, as more ground disturbance would occur. However, impacts associated with this alternative would similarly be less than significant, as erosion-related water quality impacts would be reduced to less than significant levels with implementation of a SWPPP and associated BMPs.

For impact HWQ.2 related to seawater intrusion, groundwater quality impacts under the Full Removal of Facilities Alternative would be similar to the Project, as this alternative would not include new (i.e., in addition to the existing Slop Oil Line Release remediation) groundwater remediation activities, thus minimizing the potential for increased seawater intrusion. It is possible that new sources of groundwater contamination may be discovered, as would be the case with the Project and all other alternatives, and impacts of this alternative in that case would be similar to the Project.

For impact HWQ.3, HWQ.4, and HWQ.6, with respect to stormwater runoff rates, drainage patterns, flooding, and soil absorption, some beneficial impacts associated with this alternative would occur as more impervious surfaces would be removed, resulting in decreased stormwater runoff.

For impact HWQ.5, both the Project and this alternative would be completed outside a flood hazard area.

For impact HWQ.7, with respect to water supply and demand, this alternative would require a longer demolition and remediation schedule than the Project, which in turn would require more water for dust suppression. However, because the amount of water required for dust suppression for the Project is less than four percent of the recent years' water demand, incrementally more water required for dust suppression for this alternative would similarly result in beneficial impacts.

For impact HWQ.8, both the Project and this alternative would not be in an area subject to flood impacts. Therefore, impacts would be same under the Project and this alternative.

Land Use and Planning

Under this alternative, additional construction would occur to remove the additional belowground facilities. Under impacts LUP.1 related to dividing a community, impacts would be similar to the Project.

Impacts related to particulate emission policies in the short term (LUP.2) would still apply and would potentially increase as greater areas would be disturbed under this alternative. Mitigation measure AQ.1-1 and AQ.3-1 would still apply. Impacts related to particulate emission policies in

the long term (LUP.3) would still apply and be beneficial. Impacts related to other policies (such as coastal access) (LUP.4) would still apply and be the same as the Project.

Noise

Construction activities under this alternative would be similar to the Project, as the intensity of activities during the peak periods would be the similar to the Project. The same peak noise-producing equipment arrangements would occur in the same location as the Project (such as the tank removal, and the pulverizer and rock crusher), even though overall activities on the site would increase. Impact NOI.1 related to construction noise and MM NOI.1-1 and NOI.1-2 would still be applicable. Impacts NOI.2 and NOI.3 (vibration, airports) would also be applicable.

Public Services, Utilities and Service Systems

Under this alternative, additional construction would occur to remove the additional belowground facilities. Under impacts PSU.1 through PSU.8, related to fire, police, LMUSD, parks, water supplies, wastewater, and solid waste, impacts would be similar to the Project.

Recreation and Coastal Access

Under this alternative, additional construction would occur to remove the additional belowground facilities. Under impacts REC.1 and REC.2, related to parks and recreational facilities, impacts would be similar to the Project.

Transportation

Construction activities under this alternative would be somewhat greater than the Project, as the intensity of activities during the peak periods would be greater as more material would be removed than the Project. Impact TR.1 related to construction trips and MM TR.1-1 would still be applicable. Impacts TR.2 and TR.3 (trains, safety) would also be applicable.

Wildfire

As construction activities would occur similar to the Project, impacts WF.1, WF.2, and WF.3 (wildfires, infrastructure, slopes/landslides) would be similar and applicable, with MM HAZ.7-1 still applicable.

5.3 Summary of Project Impacts and Alternatives Comparison

The alternatives, as listed above, have been carried forward for use in the environmentally superior alternative analysis. Table 5.9 provides a summary of the Project impacts and mitigation measures and the impacts of the alternatives.

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Table 5.9 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
Aesthetics	AE.1	Scenic Vistas	IV	None	IV↓	IV	IV	IV	IV
	AE.2	Visual Quality and Character	IV	None	IV↓	IV	IV	IV	IV
	AE.3	Light and Glare	IV	None	IV↓	IV	IV	IV	IV
Agricultural Resources	AG.1	Farmland Conversion	III	None	III	III	III	III	III
	AG.2	Williamson Act	III	None	III	III	III	III	III
	AG.3	Zoning Conflict	III	None	III	III	III	III	III
	AG.4	Indirect Conversion	II	AQ.1-1: Demolition & Remediation Activity Management Plan	II↓	II↑	II↑	II↑	II↑
Air Quality	AQ.1	Criteria Pollutants Construction	II	AQ.1-1: Demolition & Remediation Activity Management Plan	II↓	II↑	II↑	II↑	II↑
	AQ.2	Criteria Pollutants Operations	III	None	III	III	III	III	III
	AQ.3	Toxic Emissions	II	AQ.3-1: Clean Construction Equipment	II↓	II↑	II	II↑	II↑
	AQ.4	Odors	II	AQ.4-1: Odor Control and Purging Plan	II↓	II	II	II↑	II
	AQ.5	Clean Air Plan	II	AQ.5-1: Recordkeeping	II	II	II	II	II
Biological Resources	BIO.1	Special-Status Plants or Wildlife	II	BIO.1-1: Worker Environmental Awareness Program BIO.1-2: Biological Resources Adaptive Management & Monitoring Plan BIO.1-3 Habitat Restoration and Revegetation Plan BIO.1-4 Weed Management Plan	II↓	II↑	II↑	II↑	II↑
	BIO.2	Nipomo Mesa Lupine	II	BIO.2-1: Lupine Surveys	II↓	II↑	II↑	II↑	II↑

Table 5.9 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
				BIO.2-2: Lupine Avoidance BIO.2-3: Habitat Creation					
	BIO.3	CRPR 1-4 Plant Species	II	BIO.3-1: Plant Surveys BIO.3-2: Plant Salvage BIO.3-3: Habitat Creation BIO.3-4: Habitat Creation	II↓	II↑	II↑	II↑	II↑
	BIO.4	Monarch Butterfly	II	BIO.4-1: Butterfly Surveys	II↓	II↑	II↑	II↑	II↑
	BIO.5	Western Bumble Bee	II	BIO.5-1: Bee Surveys & Avoidance Measures	II↓	II↑	II↑	II↑	II↑
	BIO.6	Red-legged Frog	II	BIO.6-1: Frog Measures	II↓	II↑	II↑	II↑	II↑
	BIO.7	Legless Lizard	II	BIO.7-1: Lizard Surveys	II↓	II↑	II↑	II↑	II↑
	BIO.8	Nesting Birds	II	BIO.8-1: Nesting Bird Surveys & Avoidance BIO.8-2: Owl Surveys	II↓	II↑	II↑	II↑	II↑
	BIO.9	Roosting Bats	II	BIO.9-1: Bat Surveys and Measures	II↓	II↑	II↑	II↑	II↑
	BIO.10	American Badgers	II	BIO.10-1: Badger Surveys & Relocation	II↓	II↑	II↑	II↑	II↑
	BIO.11	Dune Lupine/Scrub	II	BIO.11-1: Coastal Dune Scrub Avoidance	II↓	II↑	II↑	II↑	II↑
	BIO.12	ESHA	II	BIO.12-1: ESHA Protection Plan	II↓	II↑	II↑	II↑	II↑
	BIO.13	Wetlands	III	None	III	III	III	III	III
	BIO.14	Species Movement	II	BIO.4-1, BIO.5-1; BIO.6-1, BIO.7-1, BIO.8-1, BIO.8-2, BIO.9-1, BIO.10-1	II↓	II↑	II↑	II↑	II↑
	BIO.15	ESHA Policies	II	BIO.12-1: ESHA Protection Plan	II↓	II↑	II↑	II↑	II↑
	BIO.16	Protected Tress	II	BIO.16-1: Tree Avoidance and Replacement	III	III	III	III	III

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Table 5.9 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
	BIO.17	Habitat Conservation Plans	III	None	III	III	III	III	III
	BIO Marine. 1-1	Black Abalone	I	Alt-Fullremoval-BioMarine.1-1 Preconstruction Survey for Black Abalone	NA	I	I	NA	NA
Cultural and Tribal Cultural Resources	CT.1	Historical Resources	III	None	III	III	III	III	III
	CT.2	Archaeological Resources	II	CT.2-1: Archaeologists CT.2-2: Archaeological Monitors CT.2-3: Monitoring & Discovery Plan CT.2-4: Inadvertent Discoveries CT.2-5: Worker Environmental Awareness Program	II↓	II↑	II↑	II↑	II↑
	CT.3	Unknown Human Remains	II	CT.3-1: Discovery of Human Remains	II↓	II↑	II↑	II↑	II↑
	CT.4	Tribal Resources	II	CT.4-1: Chumash Tribal Monitors CT.4-2: Archaeological & Tribal Monitoring	II↓	II↑	II↑	II↑	II↑
Energy	EN.1	Energy Use and Supplies	III	None	III	III	III	III	III
	EN.2	Compliance with Energy Standards	III	None	III	III	III	III	III
Geology and Soils	GEO.1	Unstable Earth Conditions	III	None	III	III	III	III	III
	GEO.2	Earthquake Fault Zone	III	None	III	III	III	III	III
	GEO.3	Soil Erosion	III	None	III	III	III	III	III

Table 5.9 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
	GEO.4	Structures on Expansive Soil	III	None	III	III	III	III	III
	GEO.5	Safety Element	III	None	III	III	III	III	III
	GEO.6	Mineral Resources	III	None	III	III	III	III	III
Greenhouse Gas Emissions	GHG.1	GHG Emissions	IV	None	IV	IV	IV	IV	IV
	GHG.2	Compliance with GHG Plans	III	None	III	III	III	III	III
Hazards and Hazardous Materials	HAZ.1	Routine Hazards	II	HAZ.1-1: Contaminated Soil Management Plan	II	II	II	II↑	II
	HAZ.2	Upset Hazards	II	HAZ.2-1: Spill Response Planning HAZ.2-2: Asbestos and Lead Handling Plan	II	II↑	II↑	II	II
	HAZ.3	Hazards Proximate to Schools	III	None	III	III	III	III	III
	HAZ.4	Listed Hazard Sites	II	HAZ.4-1: Sitewide Sampling and Remediation Plan	II	II	II	II	II
	HAZ.5	Proximity to Airport	III	None	III	III	III	III	III
	HAZ.6	Impair Emergency Response	III	None	III	III	III	III	III
	HAZ.7	Wildfire Risks	II	HAZ.7-1: Fire Response Planning	II	II↑	II↑	II	II
Hydrology and Water Quality	HWQ.1	Degrade Surface or Groundwater Quality	II	HAZ.2-1: Spill Response Planning	II↓	II↑	II↑	II↑	II↑
	HWQ.2	Groundwater Quality	III	None	III	III	III	III	III
	HWQ.3	Stormwater Capacity	III	None	III	IV	III	III	IV
	HWQ.4	Soil Adsorption	III	None	III	IV	III	III	IV
	HWQ.5	100-year Flood Zone	III	None	III	III	III	III	III
	HWQ.6	Drainage patterns	III	None	III	IV	III	III	IV

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Table 5.9 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
	HWQ.7	Water Service Provider	IV	None	IV	IV	IV	IV	IV
	HWQ.8	Flooding Losses	III	None	III	III	III	III	III
Land Use and Planning	LUP.1	Divide a Community	III	None	III	III	III	III	III
	LUP.2	Policy Conflict: Short-Term Particulate	I	AQ.1-1: Demolition & Remediation Activity Management Plan AQ.3-1: Clean Construction Equipment	I↓	I↑	I↑	I↑	I↑
	LUP.3	Policy Conflict: Long-Term Particulate	IV	None	IV	IV	IV	IV	IV
	LUP.4	Policy Conflict: Coastal Access	III	None	III	III	III	III	III
Noise	NOI.1	Noise Increases	II	NOI.1-1: Nighttime Activities Limits NOI.1-2: Construction Noise Control Measures	II↓	II↑	II	II↑	II
	NOI.2	Vibration	III	None	III	III	III	III	III
	NOI.3	Airport Proximity Noise	III	None	III	III	III	III	III
Public Services, Utilities and Service Systems	PSU.1	Fire Services	III	None	III	III	III	III	III
	PSU.2	Police Services	III	None	III	III	III	III	III
	PSU.3	LMUSD	III	None	III	III	III	III	III
	PSU.4	Park Facilities	III	None	III	III	III	III	III
	PSU.5	Water, Utilities	III	None	III	III	III	III	III
	PSU.6	Water Supplies	III	None	III	III	III	III	III
	PSU.7	Wastewater	III	None	III	III	III	III	III
	PSU.8	Solid Waste	III	None	III	III	III	III	III
Recreation and Coastal Access	REC.1	Parks	III	None	III	III	III	III	III
	REC.2	Rec Facilities	III	None	III	III	III	III	III

Table 5.9 Summary of Impacts and Mitigation Measures

Issue Area and Impact	Impact Number	Description	Project Impact Class	Mitigation Measures	Alternatives				
					No Project	Full Removal	Offshore Facilities Only	Additional Remediation	Conserv. Removal
Transportation	TR.1	Vehicle Miles Traveled	II	TR.1-1: Construction Traffic Management Plan	III↓	II↑	II↑	II↑	II↑
	TR.2	Train Trips	III	None	III	III	III	III	III
	TR.3	Roadway Safety	III	None	III	III	III	III	III
Wildfire	WF.1	Exacerbated Wildfire Risks	II	HAZ.7-1: Fire Response Planning	II	II↑	II↑	II	II
	WF.2	Infrastructure Installations	III	None	III	III	III	III	III
	WF.3	Slope and Landslide Fire Risks	III	None	III	III	III	III	III

Notes: ↓ = decrease in severity; ↑ = increase in severity. Class I – significant and unavoidable; Class II – significant but mitigable; Class III – less than significant; Class IV – Beneficial. Generally, all Class III impacts are considered similar and are not assigned arrows indicating increase or decrease in severity.

5.4 Environmentally Superior Alternative

This section summarizes the environmental advantages and disadvantages associated with the Project and the alternatives evaluated above. Based upon this discussion, the environmentally superior alternative is selected as required by CEQA. The CEQA Guidelines Section 15126.6(e)(2), state that if the environmentally superior alternative is the No Project Alternative, then the next most environmentally preferred alternative from among the other alternatives must also be identified.

CEQA does not provide specific direction regarding the methodology of comparing alternatives and the Project. Each project must be evaluated for the issues and impacts that are most important; this will vary depending on the project type and the environmental setting. Issue areas with significant and unavoidable (Class I) long-term impacts are generally given more weight in comparing alternatives. Impacts that are short term (e.g., construction-related impacts) or those that can be mitigated to less than significant levels are generally considered to be less important.

CEQA indicates that:

The discussion of alternatives shall focus on alternatives to the project or its location which are capable of avoiding or substantially lessening any significant effects of the project, even if these alternatives would impede to some degree the attainment of the project objectives, or would be more costly. (Section 15126.6)

The advantages and disadvantages of each of the alternatives not eliminated in Section 5.1 are discussed below compared to the Project and shown in Table 5.3.

5.4.1 No Project Alternative Comparison

The No Project Alternative would involve the Project not moving forward, which means that the SMR would remain in place with no operations. Some activity would be required for maintenance. In addition, remediation of the site would continue as the Central Coast Water Board has regulatory requirements related to cleaning up a contaminated site and the No Project Alternative assumes that remediation of contaminated soils “...would be reasonably expected to occur in the foreseeable future if the project were not approved, based on current plans and consistent with available infrastructure and community services” (CEQA Section 15126.6).

Some activities would continue into the future even under the No Project Alternative, but at a lower level than the Project. This would result in a reduction of air emissions, a reduction in potential impacts to biology, geology and soils, due to less soil movement, and some reduction in noise levels due to less activities and VMT related to traffic. There would be fewer aesthetic benefits as some aboveground infrastructure would remain not required to be removed to support remediation. However, all of these issues are less than significant with mitigation. The one significant and unavoidable impact, related to short-term particulate generation on the Nipomo Mesa under Land Use (impact LUP.2), would continue with this alternative, but to a less extent as most likely less soil disturbance would occur.

As the removal of the contaminated soil would be a regulatory requirement, and leaving the aboveground infrastructure would make this difficult, this alternative would not achieve most of the Project objectives (see Section 2.1, in the Project Description) related to removing aboveground facilities and achieving soil remediation.

5.4.2 Full Removal of Facilities Alternative Comparison

This alternative would involve removing all of the materials that are proposed to be left behind as part of the Project (except for facilities required for regulatory issues, such as groundwater contamination remediation systems). This would involve most likely a longer duration of activities.

Activities would continue longer into the future, but at a peak level that would be similar to the Project. This would result in similar impacts related to air emissions, but with a slight increase in severity for long-term health risk as the activities would continue for a longer period of time. Increased particulate emissions on the Nipomo Mesa would also occur for a longer period of time than the Project, although peak levels may be similar. As more activity would be conducted, slightly more energy use would be required. Impacts related to soils disturbance, including biology, geology and soils, and hydrology, would increase slightly over the Project. Impacts to hazards due to spills would increase slightly as more activities would be conducted and more infrastructure removed. Noise would continue for longer duration, which would be a slight increase in severity, but peak levels would most likely be similar. Traffic would increase slightly as more activities and materials would be transported. Minor increases in impacts related to wildfire would occur due to the increased activities off of the Project site. Aesthetic benefits would be similar to the Project.

However, all of these issues would be less than significant with mitigation. The one significant and unavoidable impact, related to short-term particulate generation on the Nipomo Mesa under Land Use (impact LUP.2), would continue with this alternative and to a greater extent. This alternative would achieve most or all of the Project objectives.

5.4.3 Removal of Offshore Facilities Alternative Comparison

This alternative would involve removing the wastewater treatment outfall line, which crosses the beach areas and extends offshore, in addition to those efforts described for Project. This would most likely involve a longer duration of activities, or at least periods of activities that might be more intense than some of the equivalent periods of the Project as multiple onshore activities could occur at the same time; peak levels would be similar to the Project. This alternative would also involve construction activities in the marine environment.

With peak levels expected to be similar to the Project, similar impacts related to air emissions would result. As the additional activities would be related to removal of the wastewater outfall located farther away from receptors than Project activities, the increased duration would have minimal impact on health risk. Increased particulate emissions on the Nipomo Mesa would also occur for a longer period of time than the Project, although peak levels may be similar. Increased activity would be expected to require, slightly more energy use. Impacts related to soils

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disturbance, including biology, geology and soils, and hydrology, would increase over the Project as more work would be conducted near the beach, outside of the SMR site limits, to remove the outfall pipeline. This alternative includes the potential for hazardous materials spills into the marine environment which would not exist with the Project, resulting in an increase in hazardous materials impacts. Traffic would increase slightly as more activities and materials would be transported. Minor increases in impacts related to wildfire would occur due to the increased activities off of the Project site. Aesthetic benefits would be similar to the Project.

The potential biological impact to the black abalone would be significant and unavoidable under this alternative, and this impact would not exist with the Project. The other significant and unavoidable impact, related to short-term particulate generation on the Nipomo Mesa under Land Use (impact LUP.2), would continue with this alternative and to a greater extent. All other issues would be less than significant with mitigation. This alternative would achieve most or all of the Project objectives.

5.4.4 Additional Remediation and Cleanup Alternative Comparison

This alternative would involve removing contaminated soils to a different level than the Project. This would involve most likely a longer duration of activities.

Activities would continue longer into the future, but at a peak level that would be similar to the Project. Increased soil transportation and removal of contaminated soils would take longer under this alternative. Peak activities would be similar. This would result in similar impacts related to air emissions, but with a slight increase in severity for long-term health risk as the activities would continue for a longer period of time. Increased particulate emissions on the Nipomo Mesa would also occur for a longer period of time than the Project, although peak levels may be similar. As more activity would be conducted, slightly more energy use would be required. Impacts related to soils disturbance, including biology, geology and soils, and hydrology, would increase over the Project as more work would be conducted. More contaminated soils would be handled, so a slight increase in contaminated soils handling impacts would occur. Noise would continue for longer duration, which would present noise impacts to nearby areas for a longer duration, but peak levels would be similar. And additional traffic trips would be required for a longer duration, which would present the traffic impacts over a longer term. Aesthetic benefits would be similar to the Project.

However, all of these issues would be less than significant with mitigation. The one significant and unavoidable impact, related to short-term particulate generation on the Nipomo Mesa under Land Use (impact LUP.2), would continue with this alternative and to a greater extent. This alternative would achieve most or all of the Project objectives.

5.4.5 Conservative Removal Alternative Comparison

This alternative would involve removing all of the aboveground and belowground infrastructure and grading and revegetating/vegetating a larger percentage of the site than the Project. This would involve an increase in the intensity of activities as this alternative assumes a similar timeframe as the Project along with an increase in the equipment use.

Activities would continue but with a greater intensity, the peak level of activities would also increase compared to the Project. This would result in increased impacts related to air emissions. Increased particulate emissions on the Nipomo Mesa would also occur compared to the Project. As more activity would be conducted, slightly more energy use would be required. Impacts related to soils disturbance, including biology, geology and soils, and hydrology, would increase over the Project. Noise would potentially increase, although the peak day of activities would most likely be similar to the Project as the noisiest equipment would be utilized a similar amount in this alternative and in the Project but would occur more often with this alternative. Additional traffic trips would be required as more material would be removed, increasing traffic impacts. Aesthetic benefits would be similar to the Project.

However, all of these issues would be less than significant with mitigation. The one significant and unavoidable impact, related to short-term particulate generation on the Nipomo Mesa under Land Use (impact LUP.2), would continue with this alternative and to a greater extent. This alternative would achieve most or all of the Project objectives.

5.4.6 Alternative Comparison Summary and Conclusion

All of the alternatives present a wide range of potential activities at the site, from a minimal disturbance of existing infrastructure but still achieving the required regulatory soil remediation (No Project Alternative) to the full removal of all infrastructure not required for regulatory purposes (Full Removal Alternative). The goal of the alternatives analysis under CEQA is the reduction in the severity or elimination of significant and unavoidable impacts.

None of the alternatives would eliminate or reduce the severity of the significant and unavoidable short-term land use impact related to the creation of particulate emissions on the Nipomo Mesa. Most of the alternatives would actually increase either the level of particulate or the duration of particulate emissions. As the Project has the lowest severity associated with the potential particulate impacts, and the Project would achieve the Project objectives, the Project is considered the environmentally superior alternative. The No Project Alternative would also keep particulate emissions to a minimum but may introduce feasibility issues related to achieving soil remediation as not all of the aboveground infrastructure would be removed and therefore may not achieve the Project objectives.

Note that all other alternatives, except for the No Project Alternative, while not presenting CEQA advantages in reducing significant and unavoidable impacts (see beneficial discussion below), also achieve the Project objectives.

5.5 Long-Term Beneficial Impacts

The environmentally superior alternative analysis above is focused primarily on alternatives that could result in elimination or a reduction in the severity of significant and unavoidable impacts, as per CEQA. Impacts that are less than significant or beneficial usually do not come into play for the determination of the environmentally superior alternative. However, in order to provide full

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disclosure to the public and the decision makers, this section briefly summarizes the potential beneficial impacts associated with the long-term aspects of the Project.

Most projects that require CEQA are development-type projects, where facilities are being installed or operations of an existing facility are being expanded. For a project where demolition of an existing facility is proposed as the project, CEQA normally does not identify extensive impacts as the baseline is usually greater than the effects of the project, particularly in the long-term, post-construction period when the historical operations will have ceased, and the facility has been removed.

There are a number of issues areas where the Project would produce beneficial impacts over the long term. There are also some issues areas that produce benefits both in the short term (during construction), and in the long term as well. Issue areas producing benefits in both the short and long terms, and that do not have other aspects of their impacts which require mitigation or are not beneficial, are defined in this EIR as a Class IV beneficial impact. These are listed below and called out as Class IV beneficial impacts in their respective sections:

- Aesthetics due to an elimination of the SMR structures in the coastal zone and visible from Highway 1 and other areas;
- GHG due to reduction in operational GHG emissions; and
- Hydrology and Water Quality due to reductions in groundwater use.

Issue areas and impacts that are identified as long-term beneficial impacts but that do have some short-term impacts are not identified as Class IV but are discussed in each issue area and are listed below:

- Air Quality; operational criteria pollutant emissions, toxic emissions and odors would be reduced in the long term, but would occur in the short term related to construction;
- Hazardous Materials due an elimination of contaminated soils and upset hazards, would be reduced in the long term, but would occur in the short term related to construction;
- Land use impacts are beneficial in the long term due to the elimination and associated reduction in on-site particulate emissions on the Nipomo Mesa, but would increase in the short term (resulting in a Class I Land Use impact);
- Noise reduction due to the elimination of the operating refinery noise, would be reduced in the long term, but would occur in the short term related to construction;
- Transportation would be reduced in the long term due to the elimination of truck trips from the SMR, but would occur in the short term related to construction; and
- Wildfire risks, due to the elimination of industrial facilities in a fire zone, would be reduced in the long term, but would occur in the short term related to construction.

5.6 Baseline Considerations

CEQA generally assigns the baseline to the period when the NOP is issued. That occurred in May 2023 for this Project, a period of four months after the SMR stopped receiving and processing crude oil and began decommissioning pipelines and storage tanks (under existing SLOCAPCD permits) and continued limited operations involving existing materials movement. CEQA allows for the selection of a baseline that addresses historically varying long-term operations (see Chapter 4.0), which is the baseline used in this analysis given the long-term history of operations. If the baseline had been selected as beginning at the time when the NOP was issued, the SMR would have had different, fewer operations ongoing (“reduced activities”). In order to provide full disclosure to the decision makers and the public, the selection of the “reduced activities” baseline would have changed the analysis in the following ways:

1. **Air Quality:** As the baseline would have had very limited air emissions, the Project air emissions over the baseline would be greater than analyzed in this EIR. Section 4.3, Air Quality, provides the air emissions levels for the “construction only” and this indicates that the thresholds would be exceeded for NO_x if the baseline was not included. This would have required additional mitigation in the form of Tier 4 final engines as opposed to Tier 4 interim (which only address DPM emissions). With the use of Tier 4 final construction equipment engines, all pollutants would have been below the thresholds and the impacts would remain less than significant with mitigation (the same as the current analysis).
2. **Energy:** Energy use would have increased over the baseline as the baseline would have very little energy use. However, as energy use would be associated with temporary construction and historical levels of energy use have been higher without causing any potential impacts, this impact would remain less than significant.
3. **Greenhouse Gas Emissions:** GHG emissions during construction would increase over the baseline. However, as construction emissions are amortized, the emissions levels of construction only (see Section 4.8, Greenhouse Gas Emissions) would be below the thresholds, and impacts would remain less than significant.
4. **Hazards and Hazardous Materials:** Hazards associated with the construction project would be limited to hazards associated with construction materials (diesel fuel, oils, etc.) and would be limited to potential impacts on site. Impacts would remain less than significant with mitigation.
5. **Noise:** As the baseline would not include operations of the SMR, the background noise levels would be lower, producing greater increases in noise from the construction activities over the baseline. However, mitigation measures identified are effective at reducing noise levels from construction, and even with the increases, the noise impacts would remain less than significant with mitigation.
6. **Transportation:** Transportation would increase over the baseline as the baseline would no longer have the trucks or rail trips from the SMR. However, CEQA transportation impacts are based on VMT thresholds which utilize employee trips and not truck activity, and employee trips would be below the 110 trips per day thresholds. For potential safety impacts, the Caltrans

5.0 Alternatives

data presented in Section 4.15, Transportation, indicates that accident rates along Highway 1, which include the historical SMR traffic, are acceptable and below the average accident rates for similar highways within California. Therefore, as the Project would not increase vehicle trips above the historical SMR levels, accident rates with the Project and a “reduced activities” baseline would also be acceptable. Rail traffic would increase over the baseline (which would have some rail activity due to movement of existing coke piles) but would not exceed levels examined in previous EIRs that concluded rail safety was not an impact. Therefore, impacts would remain less than significant with mitigation.

7. All other issue areas would have the same or similar impacts as the Project discussed in this EIR.

As discussed above, even with the selection of a “reduced activities” baseline, impacts would remain similar to the current analysis and there would not be any additional significant and unavoidable impacts.

5.7 References

- California Department of Toxic Substances Control (DTSC). 2023. DTSC EnviroStor site, Guadalupe Oil Field (40130002). Available at: https://www.envirostor.dtsc.ca.gov/public/profile_report?global_id=40130002. Accessed June 2023.
- County of San Luis Obispo (County). 1997. San Luis Obispo County, Unocal Avila Beach Cleanup Project, Final Environmental Impact Report, SCH # 1998100275. October 1997.
- County. 1998. San Luis Obispo County, Guadalupe Oil Field Remediation and Abandonment Project, Final Environmental Impact Report, SCH #1996051053. March 1998.
- Phillips 66. 2021. Sampling and Analysis Plan Remedial Soil Excavation – Northern Inactive Waste Site. Available at: https://documents.geotracker.waterboards.ca.gov/esi/uploads/geo_report/3209903120/SL203121248.PDF.
- Regional Water Quality Control Board (Central Coast Water Board). 1998. California Regional Water Quality Control Board Central Coast Region, Cleanup Or Abatement Order (CAO) NO. 98-38 Concerning Union Oil Company of California at Guadalupe Oil Field, San Luis Obispo County, Amended November 6, 1998. Available at: https://documents.geotracker.waterboards.ca.gov/regulators/deliverable_documents/6310017466/CAO%2098-38_amended%2011-6-98.pdf.
- Tenera Environmental Services/Stantec Consulting Services (Tenera/Stantec). 2023. Phillips 66 Company Santa Maria Refinery Offshore Outfall Line and Diffuser, 2022 Annual Dive Inspection and Observations. Prepared for Phillips 66 Santa Maria Refinery.

6.0 Other Required CEQA Sections

This section of the Draft Environmental Impact Report (EIR) addresses other California Environmental Quality Act (CEQA)-related requirements. These include the following: 1) identification of significant environmental effects which cannot be avoided if the Project is implemented; 2) evaluation of the Project-related growth-inducing effects; and 3) known areas of controversy. The following sections evaluate the Project considering these requirements. The last part of this section identifies the issue areas where impacts were found to be less than significant as part of the scoping process.

6.1 Significant Environmental Effects Which Cannot be Avoided if the Project is Implemented

One significant and unavoidable impact is identified as part of the Project. This is related to the short-term construction activities that would increase the emissions of fugitive dust on the Nipomo Mesa (impact LUP.2). The Nipomo Mesa is classified as a Level of Severity III for Air Quality by the County's Resource Management System in the General Plan Conservation Element Policy AQ 3.3. The Nipomo Mesa has a history of fugitive dust impacts, primarily due to the dunes that are located to the west of the Project site (see Section 4.3, Air Quality). Although the Project would emit fugitive dust levels below the San Luis Obispo County Air Pollution Control District (SLOCAPCD) thresholds, it would still generate a net increase in fugitive dust on the Mesa and therefore be in conflict with land use policy AQ 3.3 and potentially contribute to existing health impacts from fugitive dust on the Mesa. Note that long-term fugitive dust emissions (impact LUP.3) would decrease with the Project implementation and is considered beneficial.

Another significant and unavoidable impact associated with two of the alternatives (full removal and outfall removal only) is potential impacts on black abalone.

A number of significant impacts were identified in the following areas which would be reduced to less than significant with mitigation (see the respective sections for more discussion):

- Agricultural Resources (Section 4.2)
- Air Quality (Section 4.3);
- Biological Resources (Section 4.4)
- Cultural and Tribal Cultural Resources (Section 4.5)
- Hazards and Hazardous Materials (Section 4.9);
- Hydrology and Water Quality (Section 4.10);
- Land Use and Planning (Section 4.11);
- Noise (Section 4.12);
- Transportation (Section 4.15); and
- Wildfire (Section 4.16).

6.2 Growth Inducement

Section 15126.2(d) of the CEQA Guidelines requires that EIRs provide a discussion of the growth-inducing impacts of the project. Growth-inducing impacts could be caused by projects that foster economic or population growth, or the construction of additional housing, either directly or indirectly, in the surrounding environment. Growth-inducing impacts can also be caused by removing obstacles to population growth such as an expansion of a wastewater treatment plant. Growth-inducing impacts can result from population increases that require the construction of new community services facilities.

In general terms, a project may induce spatial, economic, or population growth in a geographic area if it meets any of these four criteria:

- Removal of an impediment to growth (e.g., establishment of an essential public service or the provisions of new access to an area);
- Economic expansion or growth (e.g., changes in revenue base, employment expansion);
- Establishment of a precedent-setting action (e.g., an innovation, a change in zoning or general plan amendment approval); or
- Development or encroachment in an isolated area or one adjacent to open space (being different from an “infill” type of project).

Should a project meet any one of the above-listed criteria, it can be considered growth inducing. The impacts of the Project are evaluated below with regard to these four growth-inducing criteria.

6.2.1 Removal of an Impediment to Growth

The Project would involve the demolition and remediation of the Project site. The Project site is zoned industrial, and an industrial, or other use, may be established on the site at some point in the future. The Project would not necessarily generate any future development at the Project site and future development is speculative at this time.

The Project would not result in the establishment of an essential public service. The Project would not be responsible for, nor contribute to, the expansion of utility services into a previously unserved area or an underserved area. Water for the Project would be provided by on-site wells and would not exceed the historical water use by the Santa Maria Refinery (SMR). The Project would not result in new access to a previously inaccessible area.

6.2.2 Economic Expansion or Growth

Economic growth is evaluated to the extent that it would relate directly or indirectly to a physical impact on the environment. Economic growth could occur in the area during construction of the Project. Employment due to construction would be limited to mostly short-term temporary labor. The construction is expected to last about three to 10 years at varying levels, which could produce some short-term economic growth. It is expected that most of the construction workers would

come from the local contractor pool within 20 to 30 miles of the Project site. Therefore, no growth in hotel services would be expected to occur.

No new operational employment would be associated with the Project. Given the limited increase in local expenditures associated with the Project, the economic growth associated with the Project would not be significant from an environmental standpoint.

6.2.3 Precedent-Setting Action

The purpose of the Project is to demolish the existing facilities at the SMR and remediate the site. The San Luis Obispo County Zoning Ordinance allows industrial uses at the Project site with a Coastal Development Permit. The Project would be within the property boundaries of the SMR and would not involve the construction of new development, and therefore would not be a precedent-setting action that would create significant growth-inducing impact.

6.2.4 Development of Open Space

Development of open space is considered growth inducing when it encroaches upon urban-rural interfaces or in isolated localities. The Project is located on lands that are zoned for industrial use (including refining operations). Future use of the site is speculative at this time.

6.2.5 Effects Found Not to be Significant

As discussed in Chapter 1.0, Introduction, the County of San Luis Obispo (County), as Lead Agency under CEQA, determined that an EIR would be required as part of the permitting process for the Project. In compliance with CEQA Guidelines, the County solicited public and agency input through distribution of a Notice of Preparation (NOP) and conducted an independent analysis of possible Project impacts. Sections 4.1 through 4.16 provide an analysis of the Project for those issues areas that were anticipated to have possible significant impacts. Section 4.17 provides a discussion of the following issue areas where the scoping process determined no significant impacts would occur:

- Mineral Resources; and
- Population and Housing.

6.3 Known Areas of Controversy

CEQA requires that an EIR discuss areas of controversy known to the Lead Agency including issues raised by agencies and the public (CEQA Guidelines Section 15123 (b)(2)). Controversial issues related to the Project are primarily those related to potential future use of the site or related to coastal access requirements. See Section 4.14, Recreation and Coastal Access, for more discussion. As the Nipomo Mesa has a history of elevated particulate matter (see Section 4.3, Air Quality), air quality issues related to dust are a concern, as noted by the designation of the short-term net air quality increase in dust emissions during the Project being a Class I significant and unavoidable impact.

7.0 Mitigation Monitoring and Reporting Program

This section provides the Mitigation Monitoring and Reporting Program (MMRP) for the Project. The County of San Luis Obispo (County), as the CEQA Lead Agency, would have the responsibility of ensuring that implementation of required mitigation as identified in this Environmental Impact Report (EIR) occurs as intended if the Project (or an alternative) is approved. Phillips 66 Company (Phillips 66), as the Applicant and Project proponent, would be responsible for implementing all applicable measures, including the adopted mitigation measures and conditions of Project approval, as well as conditions imposed in any permits or regulations administered by other responsible agencies.

The Applicant's application contained measures in the Project Description to minimize the Project's environmental impacts in a manner consistent with applicable rules and regulations. The Applicant proposes to implement these measures during the design, construction, and operation of the Project in order to avoid or minimize potential environmental impacts. County approval would be based upon the Applicant adhering to the Project as described in this document, as well as any adopted mitigation measures identified by this EIR.

The MMRP for the Project (or alternative) establishes the approach to implementing the mitigation measures identified in this EIR. If the Project is approved and the MMRP described below is adopted by the County, this MMRP would describe compliance monitoring roles and responsibilities and would be the mechanism whereby the County would implement the MMRP.

Monitoring of compliance with the specified mitigation measures would be implemented throughout construction and operations.

7.1 Authority for the Mitigation Monitoring and Reporting Program

As the Lead Agency under CEQA, the County is required to adopt a program for monitoring and reporting on the implementation of mitigation measures if the Project or an alternative is approved. The MMRP would be used to ensure that the adopted mitigation measures are implemented as defined in this EIR. This Lead Agency responsibility originates in Public Resources Code Section 21081.6(a) (Findings) and the CEQA Guidelines Sections 15091(d) (Findings) and 15097 (Mitigation Monitoring or Reporting).

7.1 Mitigation Compliance Responsibility

The responsibility for implementing adopted mitigation measures rests with Applicant, unless otherwise specified in the measure, for the life of the Project. As Lead Agency under CEQA, the County is responsible for monitoring an approved project to ensure that required mitigation measures are implemented. The purpose of the MMRP is to document that the mitigation measures required by the County are implemented and that mitigated environmental impacts are reduced to the level identified in the EIR.

7.0 Mitigation Monitoring and Reporting Program

When a mitigation measure requires that a study or plan be developed during the design or pre-construction phase of the Project, the Applicant shall submit the final study or plan to the County for review and approval. Any study or plan that requires approval of the County shall allow time for adequate County review.

7.2 General Monitoring Procedures

7.2.1 Environmental Monitors and County Inspectors

Various permit conditions of approval and plan requirements will require implementation: (1) prior to the start of construction (such as Project final design review and plan development); and (2) during construction and operations. The County and/or its contractor shall be responsible for integrating the mitigation monitoring procedures into the construction and operation processes in coordination with the Applicant for County-issued permits. To oversee the monitoring procedures and to ensure success, the assigned On-site Environmental Coordinator (OEC(s)) shall be on site during construction activities having the potential to create a significant environmental impact or other impact for which mitigation is required. Likewise, the OEC(s) and agency inspectors shall be on site to ensure compliance with their respective authorities during demolition and remediation.

7.2.2 Project Personnel

A key element in the success of mitigation and mitigation monitoring is the full cooperation of Project personnel and supervisors. Successful implementation of many of the mitigation measures requires specific actions and behaviors on the part of the supervisors or crews working for the Applicant on the Project. To ensure success, the following actions shall be taken:

- Specific procedures to be followed by contractor companies engaged to do their respective work shall be written into their contracts with the Applicant. Procedures to be followed by personnel shall be written into an agreement that all personnel shall be asked to sign, denoting consent to the procedures, regardless if Applicant staff or contractor.
- A Worker Environmental Awareness Program (WEAP) shall be conducted to inform and train personnel about the requirements of the MMRP. The OEC(s) shall verify that each crew member received the required training.
- A written summary of mitigation monitoring procedures shall be provided to supervisors for all mitigation measures requiring their respective attention.

7.2.3 General Reporting Procedures

A checklist will be developed and maintained by the County contractor to track all mitigation measure requirements, including timing. The OEC(s) will note any problems that may occur and take appropriate action to rectify the problems. Consolidated reports will be prepared by the County OEC(s) documenting construction activities, compliance activities observed across issue areas, notification of compliance issues by the Applicant, any issues and their resolution, and

photographs of relevant activities and conditions. These reports would be generated on an as-needed basis based upon the activities that are occurring.

The Applicant shall provide the County with written reports of the Project, which shall include progress of construction, resulting impacts, mitigation implemented, and all other noteworthy elements of the Project. These reports shall be generated on an as needed basis based upon the activities that are occurring and based upon a reporting schedule.

The public is allowed access to records and reports used to track the MMRP. Monitoring records and reports shall be made available for public inspection by the County or its designee on request.

7.3 Mitigation Monitoring Tables

The Table 7.1 presents the MMRP requirements for the mitigation measures identified in the environmental analysis sections of this EIR (see Sections 4.1 through 4.16). Table 7.2 lists all of the plans included in the mitigation measures.

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
GENERAL								
General	General Project Monitoring	<p>EM.1: County Environmental Monitor: The Applicant shall provide the funding for a County Environmental Monitor to oversee and monitor compliance with County Conditions of Approval and EIR mitigation measures. The Environmental Monitor shall assist the County in condition compliance and mitigation monitoring for all applicable demolition construction, soil remediation, and site restoration stages of the Project.</p> <p>The Environmental Monitor will prepare a working monitoring plan that reflects the County-approved environmental mitigation measures/conditions of approval. This plan will include:</p> <ol style="list-style-type: none"> 1. goals, responsibilities, authorities, and procedures for verifying compliance with environmental conditions of approval/mitigation measures; 2. lines of communication and reporting methods; 3. tracking construction crew training regarding environmental sensitivities; 4. daily and weekly reporting of compliance; 5. authority to stop work; and 6. action to be taken in the event of non-compliance. <p>The Environmental Monitor shall be a County employee or under contract to the County of San Luis Obispo, and the entire expense of retaining and supervising the Environmental Monitor, including the County’s administrative and overhead fees, shall be paid by the Applicant.</p> <p>The Applicant shall also be responsible for funding work required by mitigation measures requiring use of individuals with special expertise (e.g., botanist, wildlife biologist). The County’s Environmental Monitor will retain and coordinate with specialists as necessary to ensure their availability at appropriate times (i.e., prior to issuance of construction permits, during construction or post-approval, etc.). The Environmental Monitor will coordinate with the Applicant’s construction site monitors and permitting and responsible agencies.</p> <p>Monitoring/compliance: Prior to issuance of a construction permit, the Applicant shall provide a detailed Project description, detailed technical work related to any of the Conditions of Approval, and the construction work schedule, including any additional technical work/oversight conducted by the Applicant. This information will be used to obtain the monitor’s work scope. Once the consultant is selected and costs are obtained, a trust account will be established to deposit the required funds. Prior to ground disturbance, all construction workers shall be informed about the monitor and their role at the work site. This may be included as a part of any preconstruction meeting. During</p>	NA	Prior to ground disturbance or County permit issuance	Issuance of County permit	The Applicant or designee	Detailed Project Description, Schedule, and Work Plan, and a Cost-Accounting contract funding the County Environmental Monitor	County Department of Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		construction, all approved protection measures, if any, shall be kept in good working order by the Applicant and any necessary corrective measures addressed promptly by the Applicant upon discovery. The monitor shall be present as specified in the approved work scope. Prior to final inspection/occupancy of the construction permit, the Environmental Monitor shall submit to the County a final post-construction compliance report. Any outstanding items identified shall be addressed to the satisfaction.						
AGRICULTURAL RESOURCES (Section 4.2)								
AG.4	Conversion of farmland to non-agricultural uses due to Project dust	See AQ.1-1: Demolition & Remediation Activity Management Plan (DRAMP) .	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Approved De-commissioning & Remediation Activity Management Plan (DRAMP)	SLOCAPCD, County Public Health, and County Department of Planning & Building
AIR QUALITY (Section 4.3)								
AQ.1	Exceedance of SLOCAPCD thresholds for criteria pollutant emissions from Project construction	AQ.1-1: Demolition & Remediation Activity Management Plan (DRAMP) . The Applicant shall prepare a Demolition & Remediation Activity Management Plan (DRAMP) to be approved by the SLOCAPCD, and County Planning and Building, and include requirements in the SLOCAPCD CEQA Handbook identified as fugitive dust mitigation measures: <ol style="list-style-type: none"> 1. Reduce the amount of the disturbed area where possible. 2. Use of water trucks or sprinkler systems, in sufficient quantities to prevent airborne dust from leaving the site and from exceeding the SLOCAPCD’s limit of 20 percent opacity for greater than three minutes in any 60-minute period. Increased watering frequency would be required whenever wind speeds exceed 15 mph. Reclaimed (non-potable) water should be used whenever possible. Please note that when water use may be a concern due to drought conditions, the contractor or builder should consider use of a dust suppressant that is effective for the specific site conditions to reduce the amount of water used for dust control. Please refer to SLOCAPCD for a list of potential dust suppressants. 3. All dirt stockpile areas should be sprayed daily and covered with tarps or other dust barriers as needed. 4. 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; 5. 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 	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Approved De-commissioning & Remediation Activity Management Plan (DRAMP)	SLOCAPCD, County Public Health, and County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>trailer) or otherwise comply with California Vehicle Code (CVC) Section 23114;</p> <p>6. “Track-Out” is defined as sand or soil that adheres to and/or agglomerates on the exterior surfaces of motor vehicles and/or equipment (including tires) that may then fall onto any highway or street as described in CVC Section 23113 and California Water Code 13304. To prevent ‘track out’, designate access points and require all employees, subcontractors, and others to use them. Install and operate a ‘track-out prevention device’ where vehicles enter and exit unpaved roads onto paved streets. The ‘track-out prevention device’ can be any device or combination of devices that are effective at preventing track out, located at the point of intersection of an unpaved area and a paved road. Rumble strips or steel plate devices need periodic cleaning to be effective. If paved roadways accumulate tracked out soils, the track-out prevention device may need to be modified;</p> <p>7. All fugitive dust mitigation measures shall be shown on grading and building plans;</p> <p>8. In support of SLOCAPCD standard fugitive dust mitigation measures, the Applicant shall designate a Visible Emission Evaluation certified person or persons to monitor the fugitive dust emissions and enhance the implementation of the measures as necessary to minimize nuisance violations from dust complaints (Rule 402) and to reduce visible emissions below the SLOCAPCD’s limit of 20 percent opacity (Rule 401) for greater than 3 minutes in any 60-minute period. 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 SLOCAPCD Engineering & Compliance Division, and reproduced on all permit plans submitted to the County, prior to the start of any grading, earthwork, or demolition;</p> <p>9. 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;</p> <p>10. Exposed ground areas that are planned to be reworked at dates greater than one month after initial grading should be sown</p>						

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>with a fast germinating, non-invasive grass seed and watered until vegetation is established;</p> <p>11. 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 SLOCAPCD;</p> <p>12. Vehicle speed for all construction vehicles shall not exceed 15 mph on any unpaved surface at the construction site;</p> <p>13. Sweep streets at the end of each day if visible soil material is carried onto adjacent paved roads. Water sweepers shall be used with reclaimed water where feasible. Roads shall be pre-wetted prior to sweeping when feasible;</p> <p>14. Construction activities that will generate dust shall be limited to periods when air quality based on PM₁₀ only is rated as good. If the forecast falls out of the “good” rating, activities that will generate dust can continue if the PM₁₀ emissions from those activities are effectively managed under a PM₁₀ mitigation agreement between APCD and Phillips 66 that includes upwind and downwind monitoring information (see item 19 below). The 6-day forecast for the CDF forecast zone is available from the SLOCAPCD website, https://www.slocleanair.org/air-quality/air-forecasting-map.php. This information should be used by all on-site workers to plan demolition and remediation activities;</p> <p>15. Provide training to all site workers regarding dust control policies and practices and maintain records of training;</p> <p>16. Take additional measures as needed to ensure dust from the Project site is not impacting areas outside the Project boundary;</p> <p>17. Between June 1 and November 30, when Valley fever rates of infection are the highest, additional dust suppression measures (such as additional water or the application of additional soil stabilizer) shall be implemented prior to and immediately following ground disturbing activities if wind speeds exceed 15 miles per hour (mph) or temperatures exceed 95 degrees Fahrenheit for three consecutive days. The additional dust suppression will continue until winds are 10 mph or lower and outdoor air temperatures are below 90 degrees for at least two consecutive days. The additional dust suppression measures will be incorporated into the Final Dust Control Plan. The Plan shall be submitted to County Public Health and County Department of Planning and Building for review and approval;</p> <p>18. The primary Project construction contractor will prepare and implement a worker training program that describes potential health hazards associated with Valley fever, common</p>						

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>symptoms, proper safety procedures to minimize health hazards, and notification procedures if suspected work-related symptoms are identified during construction. The worker training program will identify safety measures to be implemented by construction contractors during construction. Safety measures shall include: 1) Providing HEPA-filtered air-conditioned enclosed cabs where applicable on heavy equipment; 2) Train workers on proper use of cabs, such as turning on air conditioning prior to using the equipment; 3) Providing communication methods, such as two-way radios, for use by workers in enclosed cabs; 4) Providing personal protective equipment (PPE), such as half-mask and/or full-mask respirators equipped with particulate filtration, to workers active in dusty work areas; 5) Providing separate, clean eating areas with hand-washing facilities for construction workers; 6) Cleaning equipment, vehicles, and other items before they are moved off site to other work locations; 7) Providing training for construction workers so they can recognize the symptoms of Valley fever and promptly report suspected symptoms of work-related Valley fever to a supervisor; and 8) Directing workers that exhibit Valley fever symptoms to immediately seek a medical evaluation; and</p> <p>19. The operator shall enter into a PM10 mitigation agreement with the SLOCAPCD to operate particulate air monitoring stations to measure PM2.5 and PM10 concentrations upwind (between the Oceano Dunes State Recreational Vehicle Area (ODSVRA) and the Project’s demolition/remediation activities) and downwind of proposed construction areas. Air monitoring shall be installed with sufficient time before construction starts to enable measurement of baseline conditions and to establish performance criteria sufficient to limit potential equipment emissions and fugitive dust impacts from the Project on area residences. Performance criteria, air quality mitigation measures and operating characteristics of the system shall be in the Demolition and Remediation Activity Management Plan.</p>						
AQ.3	Exceedance of SLOCAPCD thresholds for toxic emissions	AQ.3-1: Clean Construction Equipment. The Applicant shall ensure that all grading and construction equipment greater than 100 bhp be Tier 4 interim or equipped with CARB Level 3 diesel particulate filters (DPF), or equivalent, to achieve an 85 percent reduction in diesel particulate emissions from an uncontrolled engine. Stickers shall be adhered to equipment that demonstrates compliance.	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Documentation evidence of construction equipment CARB certification	SLOCAPCD and County Department of Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
AQ.4	Generation of odors from the Project	AQ.4-1: Odor Control and Purging Plan. The Applicant shall submit an Odor Control and Purging Plan that includes the use of degassing systems for equipment and pipeline purging operations that may be required and includes proactive measures to eliminate or reduce objectionable odors emanating from construction and demolition activities, and an action plan if odor issues or complaints arise.	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Odor Control and Purging Plan	SLOCAPCD and County Department of Planning & Building
AQ.5	Potential changes in Project conditions	AQ.5-1: Recordkeeping. The operator shall submit a plan and schedule for monitoring and reporting on, and maintain records on, 1) the fuel usage on a quarterly basis, for construction equipment; 2) the truck trips, type of trucks (Tier level) and associated destinations/sources of trucks; 3) train deliveries and number of railcars; and 4) any other metrics required to estimate emissions associated with this EIR. The operator shall compare associated emissions with those calculated in this EIR for a period defined by the SLOCAPCD, but not less than three years. Upon approval of the Plan and Schedule, the operator shall, for not less than three years, conduct monitoring and keep records of the fuel usage, vehicle trips and other metrics used to prepare the reports, and shall submit reports quarterly to SLOCAPCD and County Department of Planning and Building. The records supporting the quarterly reports shall be retained on site until the Project is completed and made available to SLOCAPCD or County personnel upon request.	Class II	Prior to any permit issuance	Issuance of permit	The Applicant or designee	Air Quality Monitoring and Reporting Plan	SLOCAPCD and County Department of Planning & Building
BIOLOGICAL RESOURCES (Section 4.4)								
BIO.1	Impacts to special-status plant and wildlife species and their habitats	BIO.1-1: Prepare and Implement a Worker Environmental Awareness Program (WEAP). Prior to submittal of a County Permit, the Applicant shall prepare and submit a Worker Environmental Awareness Program (WEAP) for County approval. The submitted WEAP shall include the training program details described below, tracking and reporting criteria and examples of the forms to be used. The Applicant or its designee shall provide Worker Environmental Awareness Program (WEAP) training to all new personnel prior to beginning work on the Project. The training may be presented in the form of a video. The training program shall be developed by the Lead Biologist to educate Project personnel about the Project’s sensitive biological resources. A draft of the training program (i.e., video and written materials) shall be provided to the County for review and approval no fewer than 90 days prior to issuance of construction permits for any ground disturbance. The training may be conducted concurrent with other environmental training (e.g., cultural resources awareness training, safety training, etc.). The WEAP training shall include, at a minimum:	Class II	Prior to County permit issuance	Training Program shall be approved prior to County Permit issuance, and provided to all new personnel prior to beginning work on the Project	The Applicant or designee	Prepare and submit a Worker Environmental Awareness Program (WEAP) for implementation	County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<ul style="list-style-type: none"> • An overview of the sensitive biological resources that are known or have the potential to occur in the Project area and surrounding habitat. This shall include nesting birds, special-status plants and wildlife, and sensitive habitats; • An overview of the Project, Mitigation Monitoring and Reporting Program (MMRP), and regulatory permit conditions and the consequences of non-compliance with these requirements; • An overview of the federal and State Endangered Species Acts, Migratory Bird Treaty Act, Bald and Golden Eagle Protection Act, pertinent Fish and Game Code sections, and other applicable regulatory requirements and the consequences of non-compliance with these requirements; • Functions, responsibilities, and authority of biological monitors and how they interact with Project personnel; • Identify clear points of contact for biological monitors and construction personnel including who to contact should workers have questions regarding compliance with environmental documents and permit conditions; • Project restrictions, such as Environmentally Sensitive Habitat Areas (ESHAs), required setbacks from sensitive biological resources, and avoidance buffers; • Requirements to remain within authorized work areas and on approved access routes, with examples of flagging and signage used to designate these areas; • Information on compliance with Project speed limits, control of litter and micro trash, smoking restrictions, wildfire minimization measures, spill containment and clean up, and the implementation of Construction Best Management Practices to protect biological resources (see Mitigation Measure BIO.1-2); • Measures to reduce the potential to introduce or spread invasive weeds into the Project area, descriptions of the Project’s weed control methods, and compliance requirements for Project personnel; • Identify limitations for refueling near aquatic features or where spills may enter State or federal waters; and • Explanation that wildlife must not be harmed or harassed including procedures for abiding by Project speed limits, covering pipes, securing excavations, and installing exit ramps to prevent wildlife entrapment. <p>Training acknowledgement forms shall be signed by each person attesting that they understand and would abide by Project requirements. The Applicant or its designee shall provide the County, within a Monthly Compliance Report, the WEAP training</p>						

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		acknowledgement forms for persons who have completed the training in the prior month and a running total of all persons who have completed the training to date. A hardhat sticker that can be easily verified in the field shall be distributed by the Applicant or its designee to indicate participation in the WEAP training.						
BIO.1	Impacts to special-status plant and wildlife species and their habitats	<p>BIO.1-2: Prepare and Submit a Biological Resources Adaptive Management & Monitoring Plan. The Applicant or its designee shall prepare and submit a Biological Resources Adaptive Management and Monitoring Plan (BRAMMP) for implementation that encompasses all aspects of the biological resources protection and management at the site. A draft of the BRAAMP shall be provided to the County for review and approval no fewer than 90 days prior to issuance of any construction permits. The BRAMMP shall address:</p> <ol style="list-style-type: none"> 1. Baseline biological conditions including sensitive vegetation and special-status species that have been recorded or could potentially occur on the Project site; 2. Mitigation Measures: An overview of existing and relevant mitigation measures prepared for the Project; 3. Compliance: Provide direction to maintain compliance with existing mitigation measures and federal, state, and local laws and regulations should CDFW or USFWS status designations for sensitive vegetation communities and special-status species change over the duration of the Project; 4. Lead Biologist and Biological Monitor requirements; 5. Construction Best Management Practices; 6. Reporting requirements; 7. Surveys of Species; and 8. Wildlife Impact Avoidance and Minimization Measures. <p><u>Lead Biologist and Biological Monitors.</u> The Applicant shall retain a Lead Biologist for all measures requiring biological environmental mitigation. The Lead Biologist shall, at a minimum, hold a bachelor’s degree in biological sciences, zoology, botany, ecology, or a closely related field; have at least three years of experience in field biology or construction monitoring; and have a demonstrable knowledge of the biological resources that are present or could be present in the Project area. The Lead Biologist shall be responsible for:</p> <ol style="list-style-type: none"> 1. Serving as the primary point of contact for the County and regulatory agencies regarding biological resources mitigation and compliance. 2. Managing the site Biological Monitors and ensuring that procedures for verifying compliance with biological mitigations are implemented; 3. Establishing lines of communication and reporting methods; 	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>4. Conducting compliance reporting and coordinating with the County’s Environmental Monitor (EM-1);</p> <p>5. Conducting worker environmental awareness training regarding environmentally sensitive areas and protected species (BIO 1-1);</p> <p>6. Maintaining authority to stop work;</p> <p>7. Immediately notifying the County in writing of dead or injured special-status species or any non-compliance with biological mitigation measures, permit conditions, or plan requirements; and</p> <p>8. Conducting or overseeing bi-weekly site inspections during all Project activities at the site and communicating any remedial actions needed (i.e., trash, fencing repairs, weed maintenance, etc.) to maintain compliance with mitigation measures, permit conditions, and plan requirements.</p> <p>Monitoring shall be conducted full-time in areas where vegetation removal is required during the initial disturbances (site clearing or soil sampling) and be reduced to weekly and then monthly following initial disturbances. If wildlife is observed within the Project area during demolition and remediation activities, the crew should stop work, inform the site supervisor, and contact the Lead Biologist.</p> <p>As part of the BRAMMP submittal for County approval, the Applicant shall submit the names and qualifications of their proposed Lead Biologist and supporting Biological Monitors (see below) to County Planning & Building. The contact information of the approved Lead Biologist shall be reproduced on every set of plans submitted for the Project. If the individual names of supporting/specialty Biological Monitors are not known, the specification can be to the level of company, with the understanding that the company would provide qualified personnel. Resumes shall be provided once the identifications of the Monitors are known.</p> <p>Proposed Biological Monitors shall have a minimum of two years of experience in field biology or construction monitoring and demonstrated experience with the biological resources within the Project region. The responsibilities of the Biological Monitors shall be specified in the BRAMMP and include:</p> <ul style="list-style-type: none"> • Performing preconstruction surveys and work area clearance sweeps; • Compliance monitoring during Project activities, maintaining the authority to stop work when necessary; • Ensuring maintenance of setbacks to ESHA and reporting when remediation may require relocation of disturbance area limits; 						

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<ul style="list-style-type: none"> • Delineating biological resources, informing work crews regarding avoidance; • Inspecting exclusionary fencing, work areas, and equipment to ensure wildlife is not trapped and relocating animals in harm's way; • Verify entrapment hazards are addressed at the end of each day; • Daily documentation of activities and reporting to Lead Biologist; • Ensuring that construction BMPs are implemented; • Ensuring wildlife impact avoidance measures are implemented; and • Moving wildlife if needed. <p><u>Construction Best Management Practices to Protect Biological Resources.</u> The following biological resources Best Management Practices and housekeeping measures shall be specified in the BRAMMP and implemented by the Applicant or its designee:</p> <ol style="list-style-type: none"> 1. Photo-documentation of field conditions, including water resources within the Project work area and any off-road/overland access routes, shall be conducted prior to, during, and at completion of the Project. This documentation can then be utilized by regulatory agencies to confirm that site habitats impacted during demolition/remediation have been restored to preconstruction or better condition; 2. Prior to start of construction under each permit (i.e., mobilization or ground-disturbing activity), the boundaries of ESHA shall be clearly flagged or fenced so that the workers are aware of the limits of allowable site access and disturbance; 3. Vehicles/equipment shall be inspected for leaks daily (e.g., fuel, oil, hydraulic fluids, etc.) and repaired prior to work. Spill kits/absorbent clean-up materials should be available on site and disposed of properly. Spill pans should be placed under all equipment when not in use; 4. Vehicles and equipment should remain on the existing paved/disturbed areas to the extent feasible; 5. General housekeeping, such as covering open excavations at night, maintaining wildlife-proof fencing, performing Project trash pick-up, dust control BMPs, and use of waste bins with lids on at all times, shall be maintained within the Project area; 6. Cover Excavations: The following note shall be reproduced on all plans and implemented throughout the Project: During construction, all trenches, holes, and other excavations with sidewalls steeper than a 1:1 (45 degree) slope and two or more 						

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>feet deep shall be covered when workers or equipment are not actively working in the excavation. If any such excavations remain uncovered, they shall have an escape ramp of earth or a non-slip material with a 1:1 (45 degree) slope or flatter. All excavated areas shall be inspected for wildlife before backfilling;</p> <p>7. Biodegradable Erosion Control: The Erosion Control Plan (see Section 2.7, EIR Project Description) shall specify and ensure that only biodegradable products are used, as verified by the County Environmental Monitor. During construction, use erosion control products made of natural fiber (biodegradable) to prevent wildlife from getting ensnared or strangled by monofilament, coir rolls, erosion control mats or blankets, straw or fiber wattles, or similar erosion control products; and</p> <p>8. These measures shall be provided as notes on plans for every permit and included in the WEAP training for site workers. Additionally, all sensitive environmental areas to be avoided must be clearly identified on all construction, remediation, and demolition plans.</p> <p><u>Reporting.</u> Reports shall be submitted to the County quarterly over the first 24-36 months of activity, and thereafter may be reduced as agreed upon by the County, until construction is complete and until all mitigation criteria have been signed off on by the County, CDFW, and USFWS. The reporting shall include:</p> <ol style="list-style-type: none"> 1. Methods and results from the literature review and surveys discussed in the BRAMMP above; 2. Relevant photographs and maps documenting any new occurrences of sensitive vegetation communities or special-status species (as defined by the most recent status designations during the time of the resource/database review and surveys) observed or identified; 3. A brief summary or list of Project activities accomplished during the reporting year (e.g. this includes all remediation and Project-related activities); 4. A running tally of Project impacts and locations (e.g. a running tally on remediation activities within ESHA areas) based on the findings and results of all required mitigation measures under the permit. The findings shall be provided to the County for review, along with a recommendation for habitat mitigation for impacts under that permit. At the time of final inspection, final release of each permit, provisions for any additional mitigation shall be identified and implemented before the permit is finalized; 						

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>5. A description of any impacts that occurred to special-status species (include cause of impact, location, and disposition of any dead or injured individuals). If newly designated sensitive habitats or special-status species are present during surveys, the County shall be notified within 24 hours, and standard practices and protection measures shall be implemented in coordination with the County to avoid potential impacts. No handling of federal or state listed plants or wildlife shall occur without the applicable regulatory permits;</p> <p>6. A description of avoidance, minimization, and mitigation measures implemented;</p> <p>7. Monitoring results and survey forms; and</p> <p>8. A description and figures of area restored and habitat preserved as mitigation for impacts to sensitive natural communities and special-status species.</p> <p>9. Impacted areas shall be revegetated in ESHA or other vegetation, but unless the area is protected in perpetuity, that area shall not be counted towards the required replacement in tracking.</p> <p><u>Surveys.</u> Surveys shall be conducted for species as described in specific mitigation measures listed throughout this section and as listed below:</p> <ol style="list-style-type: none"> a. Lupine Surveys (BIO.2-1) b. Plant Surveys (BIO.3-1) c. Monarch Butterfly Surveys (BIO.4-1) d. Western, Crotch, and Obscure Bumble Bee Surveys (BIO.5-) e. Red-Legged Frog Surveys (BIO.6-1) f. Lizard Relocation Surveys (BIO.7-1) g. Nesting Bird Survey (BIO.8-1) h. Burrowing Owl Surveys (BIO.8-2) i. Bat Surveys (BIO.9-1) j. Badger Den Survey (BIO.10-1) <p>The BRAMMP shall provide a section discussing the general approach to surveys and shall address the following items.</p> <ul style="list-style-type: none"> • A literature review of relevant reports/databases (e.g., IPaC, CNDDDB, CNPS, CCH, iNaturalist, eBird) to identify current sensitive vegetation communities and special-status species (as defined by the most recent status designations during the time of the review) that have been recorded in the vicinity (e.g., within five miles) of the Project site. • Specifications of surveys procedures to include the most recent CDFW, USFWS, and/or CCC protocols. If survey protocols have not been established, the Applicant or its designee shall employ standard survey practices in coordination with the County. 						

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<ul style="list-style-type: none"> • A table listing the timing and extent of surveys for the entire Project site. • Details regarding what is required for all surveys, including reporting requirements and submission timing. <p><u>Wildlife Impact Avoidance and Minimization Measures.</u> The following measures shall be included in WEAP training and described in the BRAMMP as to responsibilities for oversight and reporting, prior to County Permit issuance.</p> <ol style="list-style-type: none"> 1. Throughout all activities at the SMR site, the Applicant or its designee shall undertake the following measures to avoid or minimize impacts to wildlife resources: <ul style="list-style-type: none"> • The Applicant or its designee shall specify and enforce a maximum 15 mile per hour vehicle speed limit on any unpaved roads or work areas within the Project area. No Project-related pedestrian or vehicle traffic would be permitted outside of defined work area boundaries; • Night lighting, when in use, shall be designed, installed, and maintained to prevent side casting of light towards surrounding wildlife habitat; • Any soil bonding and weighting agents used for dust suppression on unpaved surfaces shall be non-toxic to plants and wildlife and approved by the Lead Biologist; • To minimize disturbance to wildlife in surrounding habitat, unnecessary noise (e.g., loud radios, vehicle horns) shall be avoided; and • Potable and non-potable water sources, such as water buffalos and water truck tanks, shall be covered or otherwise secured to prevent animals (including birds) from entering. Water applied for dust abatement shall use the minimal amount needed to meet safety and air quality standards. Water sources (e.g., hydrants, J-stands) shall be checked periodically by biological monitors to ensure they are not creating open water sources due to leaking or consistently overfilling trucks. 2. Trash. All trash, micro trash, and food-related waste shall be contained in vehicles or covered trash containers and removed from the site regularly. 3. Worker guidelines. Workers shall not feed wildlife or bring pets to the Project area. Except for law enforcement personnel, no workers or visitors shall bring firearms or weapons into the Project area. 4. Wildlife entrapment. Project-related excavations shall be secured to prevent wildlife entry and entrapment. Holes and trenches shall be backfilled, securely covered, or fenced. Excavations that cannot be fully secured shall incorporate 						

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Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>appropriate wildlife exit ramp(s) at a slope of no more than a 3:1 ratio, or other means to allow trapped animals to escape. Biological monitors shall provide guidance to work crews to ensure that wildlife ramps or other means are sufficient to allow trapped animals to escape. A biological monitor shall inspect excavations for trapped wildlife routinely throughout the day and at the end of each workday.</p> <p>5. All pipes or other construction materials or supplies shall be covered or capped in storage or laydown areas. No pipes or tubing would be left open either temporarily or permanently, except during use or installation. Any construction pipe, culvert, or other hollow materials would be inspected for wildlife before it is moved, buried, or capped.</p> <p>6. Dead wildlife. Dead animals of non-special-status species found within the Project area shall be reported to the appropriate local animal control agency within 24 hours. A biological monitor shall safely move the carcass out of the road or work areas as needed. Dead animals of special-status species found in the Project area shall be reported to CDFW, NMFS, and/or USFWS within one workday and the carcass handled as directed by the regulatory authority.</p> <p>7. Injured wildlife. The Applicant or its designee shall create and implement guidelines for dealing with injured or entrapped wildlife found on or near the Project area. These guidelines shall be provided to all Project biological monitors. If an animal is entrapped or entangled, a qualified biological monitor shall free the animal if feasible, or work with personnel to free the animal, in compliance with applicable safety regulations and Project requirements. If biological monitors cannot free the animal or the animal is too large or dangerous for monitors to handle, the Applicant or its designee shall contact and work with local animal control, CDFW, or other qualified parties to obtain assistance as soon as possible.</p> <p>8. The Applicant or its designee shall ensure that one or more qualified biological monitors are properly trained (or receive training) in the safe and proper handling and transport of injured wildlife and are provided with the appropriate equipment. These trained and equipped monitors shall be available to capture and transport injured wildlife to a local wildlife rehabilitation center or veterinarian as needed. The Applicant shall bear the costs of any rehabilitation or veterinary treatment for any wildlife injured by Project-related activities. Any injured or entrapped special-status species</p>						

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		found within or near the Project area shall be reported to the appropriate agencies within one workday.						
BIO.1	Impacts to special-status plant and wildlife species and their habitats	<p>BIO.1-3: Habitat Restoration and Revegetation Plan. Prior to issuance of any County permit, the Applicant or its designee shall prepare and submit for County review and approval a Habitat Restoration and Revegetation Plan (HRRP) that addresses restoration and revegetation related to all non-hardscaped areas that are being temporarily disturbed during demolition and remediation activities.</p> <p>The HRRP shall expand upon the site restoration activities described in the EIR Project Description Section 2.6 by providing detailed descriptions of: 1) the type and location of vegetation to be removed; 2) identify where restoration is occurring and appropriate seed mix and species to be used; 3) weed management criteria, incorporating the specific monitoring and success criteria mentioned below; and, 4) appropriate contingency measures if success criteria are not met.</p> <p>Monitoring of the revegetation and restoration sites will continue annually for no fewer than five years. At a minimum, all revegetated sites shall have persisted successfully without irrigation or remedial planting for a minimum of two years prior to the completion of monitoring. Nonnative species percent cover cannot exceed 20 percent total cover in areas outside of ESHAs and 10 percent total cover within ESHAs, or as determined based on existing conditions with the approval of the County. This represents the minimum success criteria; however, the Applicant shall work with the County as needed to further refine quantitative and qualitative performance criteria as needed. Further refinement may take into consideration the existing site conditions including the area of existing Refinery infrastructure. Additionally, specific criteria may be different for the formerly vegetated areas versus the former hardscape areas.</p> <p>The HRRP shall be submitted to and approved by the County of San Luis Obispo’s Environmental Coordinator or their designee (see mitigation measure EM.1 in Chapter 4.0, Environmental Impacts Analysis), prior to issuance of permits. The HRRP shall specify how existing ESHA within and surrounding the Project site is quantified and tracked for impacts and replacement throughout construction, and provide the framework and responsibilities for minimizing impacts, salvaging seed, and managing stockpiles during remediation. Once approved, the HRRP would guide all restoration and monitoring activities. Any usable topsoil with the potential to hold the seeds of sensitive species would be salvaged and used when revegetating the area. At a minimum the HRRP shall include the following:</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The HRRP for approval and implementation	County Department of Planning & Building

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Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<ul style="list-style-type: none"> Proposed species list for creation/enhancement; Planting/seeding methodology; Details on methodologies for salvage of special-status species; Irrigation plan; Weeding schedule; Success criteria; Monitoring methodology and schedule; Reporting requirements; and Adaptive management and a contingency plan <p>The Applicant or its designee shall submit the HRRP to California Department of Fish and Wildlife (CDFW) and U.S. Fish and Wildlife Service (USFWS), in addition to the County, for joint-agency review and comment. The Applicant or its designee shall incorporate all requested revisions in coordination with the County for final approval, prior to County issuance of permits impacting or allowing removal of any of the above-mentioned special vegetated areas.</p> <p>The Applicant shall be responsible for execution of the approved HRRP that would re-establish appropriate vegetation in disturbed ESHA and non-ESHA vegetated areas on the site, subject to monitoring and periodic inspection by the County, CDFW, and USFWS. Failure to adequately execute the plan or meet final success criteria shall be subject to the enforcement provisions by the County.</p>						
BIO.1	Impacts to special-status plant and wildlife species and their habitats	<p>BIO.1-4 Weed Management Plan. Prior to issuance of any County permit, the Applicant or its designee shall prepare and submit a Weed Management Plan (WMP) describing the proposed methods of preventing and controlling Project-related spread of weeds or new weed infestations throughout Project remediation and restoration activities. The WMP shall outline the personnel, tasks, responsibilities and schedule for implementing the following:</p> <p>For the purpose of the WMP, “weeds” shall include designated noxious weeds, as well as any other non-native weeds or pest plants identified on the weed lists of the California Department of Food and Agriculture or the California Invasive Plant Council (CAL-IPC). The WMP shall be implemented throughout all activities at the site and shall include the following components:</p> <p><u>Background.</u> An assessment of the Project’s potential to cause the spread of noxious and invasive weeds into new areas, or to introduce new weeds into the Project area. This section must list known and potential noxious and invasive weeds occurring in the Project area and in the general region and identify threat rankings and potential consequences of Project-related occurrence or spread for each species. This assessment shall include, but is not limited to, weeds that (1) are rated high or moderate for negative ecological</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The WMP for approval and implementation	County Department of Planning & Building

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		<p>impact in the CAL-IPC Inventory Database (CAL-IPC 2023), and (2) aid and promote the spread of wildfires. This section shall identify control goals for each species (e.g., eradication, suppression, or containment) likely to be found within the Project area.</p> <p><u>Preconstruction Weed Inventory.</u> The Applicant or its designee shall inventory all areas subject to Project-related vegetation removal or ground-disturbance. The weed inventory shall include vehicle and equipment access routes within the site and staging and storage yards. Weed occurrences shall be mapped and described according to density and area covered. The map shall be updated at least once a year.</p> <p><u>Weed Prevention.</u> The WMP shall specify methods to minimize potential transport of weed seeds within the site and from areas outside of the site. The WMP shall specify inspection procedures for equipment and materials entering the Project area. Vehicles and equipment shall be inspected and cleaned prior to entering specified points in the Project area and before leaving the site where weed occurrences must be locally contained. Heavy equipment (e.g., graders, bulldozers, cranes, etc.) shall be cleaned of dirt and mud that could contain weed seeds, roots, or rhizomes. Equipment shall be inspected to ensure it is free of any dirt or mud that could contain weed sources. Tires, tracks, outriggers, and undercarriages shall be carefully washed. Vehicles (e.g., pick-up trucks) that are frequently entering and exiting Project work sites shall be inspected and washed on an as-needed basis. Tools, such as chainsaws, hand clippers, pruners, etc. shall be cleaned of dirt and mud before entering Project work sites.</p> <p>All equipment, vehicles, and tools shall be washed off site when possible. If off-site washing is infeasible, on-site cleaning stations shall be set up at specified locations to clean equipment, vehicles, and tools before entering unpaved work sites. Wash stations are to be located a minimum of 100 feet from sensitive habitats, including ESHAs. Wastewater from cleaning stations shall not be allowed to run off the cleaning station site. When equipment and vehicles are washed on site, a daily log must be kept stating the location, date and time, type of equipment, methods used, and personnel present. The log shall contain the signature of the responsible personnel. Written or electronic logs shall be available to the County upon request and a summary included in annual reporting.</p> <p>Erosion control materials (e.g., fiber rolls or hay bales) must be certified free of weed seed before entering the Project area. The WMP must prohibit on-site storage or disposal of mulch or green waste that may contain weed material. Mulch or green waste</p>						

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Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>that could contain weed material shall be removed from the site in a covered vehicle to prevent seed dispersal and transported to a licensed landfill or composting facility. The WMP shall specify guidelines for any soil, gravel, mulch, or fill material to be imported into the DCCP site or transported to an off-site location.</p> <p><u>Weed Monitoring.</u> The WMP shall specify methods of survey for weeds throughout the Project. It shall also specify qualifications of botanist Biological Monitors responsible for weed identification and monitoring. The WMP shall include a monitoring schedule to ensure timely detection and immediate control of weed infestations to prevent further spread. Surveying and monitoring for weed infestations shall occur at least two times per year and shall coincide with the detection periods for early and late season weeds. The WMP shall also include methods for marking weed locations and recording and communicating these locations to applicable personnel. The map of weed locations (discussed above) shall be updated at least once a year.</p> <p><u>Weed Control.</u> The WMP shall specify manual and chemical weed control methods to be employed. The WMP shall include only weed control measures with a demonstrated record of success for target weeds, based on the most recent information available. The plan shall describe proposed methods for promptly scheduling and implementing control activity when any weed infestation is located, to ensure effective and timely weed control. Weed infestations must be controlled or eradicated as soon as possible upon discovery, and before they go to seed, to prevent further spread. All proposed weed control methods must minimize the extent of any disturbance to native vegetation, limit ingress and egress to defined work areas and access routes and avoid damage from herbicide</p>						
BIO.2	Impacts to Nipomo Mesa lupine	<p>BIO.2-1: Nipomo Mesa Lupine Surveys. The following measure shall be included in the BRAAMP and implemented as part of the biological monitoring. Additional site-wide surveys for Nipomo Mesa lupine (NML) shall be conducted by a qualified botanist prior to initial construction permit issuance and annually thereafter until five years after demolition and remediation work is complete (or until site restoration requirements are met). Surveys after completion of demolition and remediation activities are required to quantify any indirect impacts to previously occupied areas. Surveys shall be conducted at identified appropriate times based on seasonal weather conditions and shall follow the methods outlined in CDFW 2018 and CNPS 2001. Each survey year shall also include a late bloom survey (May to December) to maximize detection (CDFW 2023a). Surveys shall be done prior to the initial construction permits being submitted, and annually thereafter, with the updated information incorporated to subsequent permits until all Project-</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		related demolition and remediation permit activities are completed. Areas to be avoided shall initially be informed by previous surveys and clearly delineated on all demolition and remediation plans and submitted to the County in support of construction permits. The results of NML surveys shall be included in the annual monitoring report required in measure BIO.1-2.						
BIO.2	Impacts to Nipomo Mesa lupine	<p>BIO.2-2: Nipomo Mesa Lupine Avoidance. The following measure shall be contained in the BRAAMP, implemented as part of the biological monitoring and shall be reproduced on all plans. Known locations of Nipomo Mesa lupine shall be avoided unless all necessary approvals and concurrence with the CDFW that are required for the take of a federal and state-listed plant are first obtained. Known population areas plus a 25-foot buffer shall be identified on all plans submitted to the County for approval. The known population boundaries mapped in previous years, plus any expansions observed during surveys conducted in the year of Project activities, would constitute the known population area to be avoided (which is different than the presumed occupied area). A minimum of a 25-foot buffer shall be placed around all known population areas within 100-foot of Project activities to avoid potential indirect impacts and changes to microhabitats that support the species. These buffers shall be flagged/fenced and avoided during construction. A qualified biologist shall conduct preconstruction surveys in all areas and verify that all known population areas plus a 25-foot buffer are properly flagged/fenced and shall have the authority to expand this buffer as needed based on site conditions and observed plants. Tracking shall be done through daily monitoring logs and summarized in annual reports as described in measure BIO.1-2.</p> <p>If an incidental take authorization is obtained and other measures implemented based on discussions with CDFW, the Applicant shall submit to the County a copy of the take authorization permit.</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building
BIO.2	Impacts to Nipomo Mesa lupine	<p>BIO.2-3: Nipomo Mesa Lupine Habitat Mitigation and Creation. The County-approved HRRP (BIO1-3) shall include methods of restoring and enhancing Nipomo Mesa lupine at a 3:1 ratio (based on square feet cover of individual plant) for permanent impacts to individuals. The HRRP shall also focus on restoring and enhancing sensitive communities and rare plant associations immediately adjacent to known Nipomo Mesa lupine populations in order to promote expansion of the existing population (see ESHA mitigation measure BIO.12-1). At a minimum, the HRRP shall include the following elements for the Nipomo Mesa Lupine:</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The HRRP for approval and implementation	County Department of Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<ol style="list-style-type: none"> 1. Identification of locations, amounts, size and types of plants to be replanted, as well as any other necessary components (e.g., temporary irrigation, amendments, etc.) to ensure successful reestablishment. 2. Quantification of impacts based on actual activities and quantification of mitigation areas such that the replacement criteria are met (3:1 ratio (based on square feet cover of individual plant). 3. A program schedule and success criteria for a minimum five-year monitoring and reporting program that is structured to ensure the success of the HRRP. 4. Provide for the in-kind replacement of Nipomo Mesa lupine individuals that are removed or damaged at a 3:1 ratio (based on square feet cover of individual plant) within the designated restoration area with 100% success in 5 years. 5. Identification of access and methods of materials transport to the restoration area, including personnel, vehicles, tools, plants, irrigation equipment, water, and all other similar supplies. Access shall not result in new or additional impacts to habitat and special-status species. 6. The required program shall incorporate an invasive species control program and be implemented by qualified personnel to ensure that the invasive species control program does not result in any additional impacts to Nipomo Mesa lupine, or other rare species. 7. If individual Nipomo Mesa lupine are to be impacted, a qualified biologist shall collect seed and deposit accessions into a permanent conservation seedbank established for the species at the Santa Barbara Botanic Garden or equivalent. The topsoil of impacted habitat shall be collected prior to ground disturbance (site clearing or soil sampling) in order to preserve the seed bank. Topsoil shall be relocated to restored habitat areas to promote the expansion of occupied habitat. Criteria shall be prepared in coordination with the USFWS and CDFW from non-impacted individuals to provide additional backup seeds to the U.S. Department of Agriculture’s National Laboratory for Genetic Resource Preservation seed vault, located in Fort Collins, Colorado. The specifics of seed collection and details of the mitigation shall be provided in the HRRP. 8. The locations of proposed restoration area for mitigation shall be delineated and restored or reestablished NML population areas. If on-site mitigation is not feasible or would not be biologically viable and therefore would not adequately mitigate the loss of biological functions and values, off-site 						

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>mitigation through habitat creation and/or acquisition and preservation in perpetuity shall be identified, preferably within the Nipomo Dunes complex.</p> <p>9. The proposed restoration area(s) shall be protected in perpetuity by an easement or deed restriction in a form approved by County Counsel. The easement shall either be an open space easement, or a conservation easement if required by the California Department of Fish and Wildlife and United States Fish and Wildlife Service, or if chosen by the Applicant. The easement shall be in a form approved by County Counsel and CDFW and/or USFWS if required by those agencies.</p> <p>10. The HRRP shall address success criteria for reestablished areas based on CDFW criteria and funding shall be provided by the Applicant until these success criteria are achieved.</p> <p>Upon successful completion of the program and subsequent approval by the permitting resource agencies, the applicant shall consider providing non-profit organizations such as California Native Plant Society and The Land Conservancy with long term access to the restoration site for the purposes of education, and long-term maintenance of the restoration site. Long-term maintenance activities would only occur if permitted by the applicant and would require coordination with California Department of Fish and Wildlife and United States Fish and Wildlife Service. If restoration is onsite, access to the site is not guaranteed as a result of this measure. Funding for any future long-term maintenance activities shall be facilitated by the non-profit organization.</p>						
BIO.3	Impacts to CRPR 1-4 plant species	<p>BIO.3-1: CRPR 1-4 Plant Species Surveys. The following requirements shall be incorporated to the BRAMMP/HRRP and implemented upon approval by the County: Populations of special-status plants shall be avoided to the maximum extent practicable. Known population areas shall be identified on all demolition/grading plans submitted to the County for approval. Additional surveys shall be conducted prior to construction permits being issued (or prior to mobilization and ground-disturbing activity) and annually thereafter until demolition and Project-related remediation work is complete. Surveys shall be conducted at identified appropriate times based on seasonal weather conditions and shall follow the methods outlined in CDFW 2018 and CNPS 2001. Areas to be avoided shall initially be informed by previous surveys and clearly delineated on all demolition and remediation plans and submitted to the County in support of permits for any demolition or remediation activity.</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP and HRRP for approval and implementation	County Department of Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		A minimum of a 25-foot buffer shall be placed around all known locations of special-status plant species within 100 feet of Project activities to avoid potential impacts to seed banks and microhabitats that support the species. Buffers shall be clearly shown on all demolition and remediation plans. Buffers shall be expanded by the Lead Biologist as needed on site if necessary. These buffers shall be flagged/fenced and avoided during construction. Tracking shall be done through daily monitoring logs and summarized in annual reports as described in measure BIO.1-2. The results of the surveys before and after construction in any area shall be compiled to an updated site plan and reported annually to the County for use with permit review in the subsequent year.						
BIO.3	Impacts to CRPR 1-4 plant species	BIO.3-2: CRPR 1-4 Plant Species Salvage. The following measure shall be included in the BRAMMP and HRRP prior to County permit issuance: If CRPR 1-4 species cannot be avoided, the individual plants shall be salvaged (e.g., plant placed in large nursery pot and/or seed collection) for use in habitat restoration activities once Project-related construction activities are complete. Details of the proposed salvage activity would be presented in the HRRP (refer to BIO.1-3). All plants directly salvaged or propagated from collected seed shall be monitored and must survive in good health or demonstrate stable or expanding populations, for a minimum of three years, post planting, for salvage to be considered successful. Details of the salvage methodology and reporting would be presented in the HRRP detailed under measure BIO.1-3.	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP and HRRP for approval and implementation	County Department of Planning & Building
BIO.3	Impacts to CRPR 1-4 plant species	BIO.3-3: CRPR 1-3 Plant Species Habitat Creation. The following measure and requirements shall be incorporated to the BRAMMP and HRRP prior to County permit issuance, and implemented as applicable: If CRPR 1-3 species cannot be avoided, impacts shall be mitigated through the restoration of suitable habitat at a minimum 2:1 ratio of individuals impacted to individuals restored, in coordination with the County Environmental Monitor. Impacts shall be documented and tracked throughout the Project and the area of impact and mitigation requirements for each species reported annually to the County. Compensation for impacts to CRPR 1-3 species may be achieved by either a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to remediation activities; b) off-site creation or enhancement of dune scrub communities; or c) participation in an established mitigation bank program. If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all restored or reestablished population areas shall be protected in perpetuity through an accompanying deed restriction in	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP and HRRP for approval and implementation	County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		a form approved by County Counsel or conservation easement. It is the responsibility of the Applicant, or designee, to track individual specimens and species impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.						
BIO.3	Impacts to CRPR 1-4 plant species	BIO.3-4: CRPR 4 Plant Species Habitat Creation. The following measure and requirements shall be incorporated to the BRAMMP AND HRRP prior to County permit issuance, and implemented as applicable: If Project-related impacts result in the loss of more than 10 percent of the on-site population of any CRPR 4 plant species, compensatory mitigation shall be provided at a minimum 1:1 ratio of individuals impacted to individuals restored. Impacts shall be documented and tracked throughout the Project and the area of impact and mitigation requirements for each species reported annually to the County. Compensation shall be provided for all impacts that exceed the 10 percent threshold (e.g., impacts to 15 percent of a population would only require compensation for five percent or the amount of impacts that exceed the 10 percent threshold). Compensation for impacts to CRPR 4 species may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to remediation activities; b) off-site creation or enhancement of dune scrub communities; or c) participation in an established mitigation bank program at a 1:1 mitigation ratio (one acre preserved for each acre impacted). If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all restored or reestablished population areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. It is the responsibility of the Applicant, or designee, to track individual specimens and species impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP and HRRP for approval and implementation	County Department of Planning & Building
BIO.4	Impacts to monarch butterflies	BIO.4-1: Monarch Butterfly Preconstruction Surveys. The following measure and requirements shall be incorporated into the BRAMMP prior to County permit issuance and implemented as applicable: If any project activities are scheduled between October 1 st and the end of February, the Applicant or designee shall conduct preconstruction surveys of potential monarch butterfly overwintering habitat on site or adjacent to the site. The surveys shall be conducted by a qualified monarch butterfly biologist approved by the County. The resume of the proposed biologist along with the survey schedule shall be submitted to the County for review and approval no more than 14 days prior to beginning	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>surveys. The proposed biologist must have demonstrated experience in monarch butterfly ecology and habitat in order to conduct the surveys.</p> <p>If site disturbance is proposed within 200 feet of potential monarch butterfly overwintering locations and will occur (i.e., permit issuance occurs) during the aggregation season (October 1 through the end of February), surveys shall be conducted from the Project site and/or public roads for three mornings at least one week prior to planned disturbance.</p> <p>If clustering monarch butterflies are observed, the following shall be implemented:</p> <ol style="list-style-type: none"> 1. Site disturbance and construction activity within 200 feet of monarch butterfly overwintering habitat shall be prohibited while monarch butterflies are in an overwintering aggregation. 2. A 200-foot buffer shall be installed with T-posts and rope and labelled as Environmentally Sensitive Habitat every 75 to 100 feet during the occupation period. 3. Monitoring visits shall be conducted during daily active construction to document numbers and assure that no disturbance of the aggregation is caused by construction. 4. Reporting on the survey results and any protective measures implemented shall be submitted to the County by March 15 annually. 						
BIO.5	Impacts to western bumble bee	<p>BIO.5-1: Surveys for Western, Crotch, and Obscure Bumble Bee and Implement Avoidance Measures. The Applicant or its designee, within one year (and at least 90 days) prior to submittal of an application for a County permit, shall conduct visual surveys to determine the presence/absence of Western, Crotch, and Obscure bumble bees. The surveys shall be conducted by a County-approved qualified biologist(s) familiar with the species behavior and life history. The resume(s) of the proposed biologist(s) shall be submitted to the County, along with the survey schedule, for review and approval no more than 14 days prior to conducting surveys. CDFW survey protocols shall be implemented “Survey Considerations for CESA Candidate Bumble Bee Species” (CDFW 2023c). Survey results, including negative findings, shall be submitted to the County prior to permit issuance. If survey results are negative, no further actions are required. If Western, Crotch, and Obscure bumble bee nests/colonies (or potential nests/colonies) are determined to be present during surveys, the Applicant or its designee shall develop a plan in consultation with the County following CDFW guidance and in coordination with CDFW to protect the nest/colony site(s). No construction permits shall be issued until the plan has been approved by the County.</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
BIO.6	Impacts to California red-legged frogs	BIO.6-1: Red-Legged Frog Assessment and Measures. The following measure shall be included in the BRAMMP and HRRP submitted for County approval: At least 90 days prior to submittal of a County application for construction permit for the Project, The Applicant or its designee shall prepare a California red-legged frog site assessment. The assessment shall follow USFWS Revised Guidance on Site Assessments and Field Surveys for the California Red-legged Frog (USFWS 2005) for artificial water features PW 1 and PW 2, submitted to USFWS for review and copied to the County. The assessment shall be conducted by a USFWS- and County-approved biologist, with the results provided to and approved by the County. The County shall receive the name and qualifications of the proposed biologist conducting surveys for approval prior to initiating the field work under the assessment. Within 14 days of completion of the final survey, the Applicant or its designee shall provide to the County a report describing the findings of the site assessment. If the survey results are negative, no further actions are required. If the site assessment report and surveys indicate that red legged frogs are determined to be present, the Applicant or its designee shall develop a plan in consultation with the County and in coordination with USFWS to protect the species in accordance with USFWS Guidance (USFWS 2005). The plan shall include measures to be taken to prevent red-legged frog impacts as required by USFWS, identify reception sites to relocate red-legged frogs if they need relocation, clearance surveys and fencing requirements, and, procedures for reporting of monitoring, handling, and relocation issues. The Applicant shall submit the plan (if applicable) to the County with documentation from the USFWS that consultation has been conducted and USFWS guidance is being followed.	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building
BIO.7	Impacts to California legless lizard and Blainville’s horned lizard	BIO.7-1: Lizard Relocation Surveys. The following measure shall be included in the BRAMMP submitted for County approval prior to issuance of County construction permits: Relocation surveys for special-status reptiles shall be conducted in undeveloped areas where earthwork is required for Project activities such as remediation prior to permit issuance and mobilization, or as described. Surveys shall be performed during appropriate times of year when the species are active and can be located. The following measures shall apply. 5. Cover board and raking surveys for legless lizard shall be conducted between January and July. California legless lizards are not expected to move back into work areas after relocation; therefore, these surveys can be done well in advance of earthwork. The surveyor should utilize cover board methods in areas of disturbance where legless lizards	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>are expected to be found (e.g., under shrubs, other vegetation, or debris).</p> <p>6. Hand search surveys should be completed during times of year when the species are active and can be located and immediately prior to and during grading activities.</p> <p>7. During initial ground disturbance activities, the biologist shall walk behind the grading equipment to capture California legless lizards that are unearthed by the equipment. The surveyor shall capture and relocate any legless lizards or other reptiles observed during the survey effort. The captured individuals shall be relocated from the remediation area and placed in suitable habitat outside of any current or future work areas.</p> <p>8. Following the survey and monitoring efforts, for each new permit work area the biologist shall submit to the County a Project completion report that documents the survey date(s) and area limits surveyed, number of special-status reptiles and other reptiles captured and relocated, and a post-construction summary of the number of special-status reptiles or other reptiles taken during earthwork and remediation activities.</p> <p>9. These requirements shall either be reproduced on each plan set submitted for permit, or included in the BRAMMP.</p>						
BIO.8	Impacts to special-status birds, raptors, and nesting birds.	<p>BIO.8-1: Nesting Bird Preconstruction Survey and Nest Avoidance. The following measures shall be included in the Project BRAMMP prepared for County approval, prior to issuance of any County construction permits: Within 10 days prior to construction activities, including disassembling and demolition of existing structures, if permits are issued, or work occurs, between February 1 and September 15, nesting bird surveys shall be conducted. Surveys shall include a sufficient buffer area around the Project area, as determined by a qualified biologist, to the extent feasible. A sufficient buffer shall mean any area potentially affected by the Project. If surveys do not locate nesting birds, construction activities may begin. If nesting birds are located, no construction activities shall occur within 250 feet of nests or within 500 feet of raptors until chicks have fledged.</p> <p>The Project biologist may recommend a buffer decrease depending on site conditions (such as line-of-sight to the nest) and the birds’ level of tolerance for construction activities. The biologist shall collect data on the birds’ baseline behavior and their tolerance to disturbance by observing the birds at the nest prior to construction activities. If the birds are incubating, the biologist shall record how long they stay in the nest. If nestlings are present, the biologist shall record how frequently adults deliver food and visit the nest. The biologist shall also record the birds’ reaction to the</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>biologist and how close the biologist can get to the nest before the birds’ behavior is altered or they show signs of stress or disturbance. The biologist shall set the reduced buffer distance based on these data. Nesting bird buffers may be reduced up to 50 feet, while raptor nest buffers may be reduced up to 250 feet. If nest buffers are reduced, the biologist shall monitor any construction activities that take place within 100 feet of nesting birds and 500 feet of raptor nests. If nesting birds show any signs of disturbance, including changes in behavior, significantly reducing frequency of nests visits, or refusal to visit the nest, the biologist would stop work and increase the nest buffer.</p> <p>If fully protected raptors are located within the Project area or within 500 feet of the Project area, a 500-foot no-disturbance buffer shall be implemented. If the 500-foot no-disturbance buffer cannot be feasibly implemented, the Lead Biologist shall contact CDFW to identify additional avoidance measures.</p> <p>These requirements shall either be reproduced on each plan set submitted for construction permit or included in the BRAMMP for the Project.</p> <p>Within 30 days following completion of the survey and monitoring efforts for each permit area (as applicable), the biologist shall submit to the County a Project completion report that documents the number of nests observed and actions taken to avoid impacts to nesting birds. An annual summary of activities and permits monitored shall be submitted to the County by December 1 for each nesting season through Project construction and remediation.</p>						
BIO.8	Impacts to special-status birds, raptors, and nesting birds.	<p>BIO.8-2: Burrowing Owl Preconstruction Surveys. The following measure shall be included in the BRAMMP prepared for County approval prior to issuance of County permits: The Applicant or its designee shall conduct preconstruction surveys for burrowing owl shall follow the California Burrowing Owl Consortium’s Burrowing Owl Survey Protocol and Mitigation Guidelines (California Burrowing Owl Consortium 1993) and CDFW Staff Report on Burrowing Owl Mitigation (CDFW 2012). In the event a burrowing owl is located, disturbance buffers shall be implemented as outlined in the CDFW Staff Report on Burrowing Owl Mitigation, unless a qualified biologist approved by the CDFW verifies through non-invasive methods that (1) the birds have not begun egg laying and incubation or (2) that juveniles from the occupied burrows are foraging independently and capable of independent survival. Burrows that are verified as unoccupied by the Lead Biologist may be made inaccessible to owls (e.g., by collapsing, covering, or other appropriate means). Annually and</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		following Project completion, the biologist shall submit to the County a summary completion report that documents the locations, associated permits, results of preconstruction surveys conducted and actions taken to avoid impacts to burrowing owls.						
BIO.9	Impacts to roosting bats	<p>BIO.9-1: Bat Preconstruction Surveys and Measures. The following measures shall be included in the BRAMMP prepared for County approval prior to issuance of County permits: Upon Applicant submittal of demolition permits to County Planning and Building, the following shall be noted on plans: Prior to mobilization or initiation of demolition activity, the Applicant or its designee shall conduct preconstruction surveys of suitable roosting habitat features (e.g., structures and trees or snags to be removed that are greater than 20 inches diameter at breast height). Surveys shall be conducted within the Project site permitting area and a 300-foot buffer by a qualified biologist within 30 days of construction activities. Surveys shall occur during the appropriate time of day to maximize detectability to determine if bat species are roosting on site or near Project work areas. Surveys may include observational methods, echolocation monitoring, etc. to determine whether bats are present. A survey report shall be completed and submitted to the County that includes, but is not limited to, the survey methodology and biologist qualifications and, if bats are present, the colony size, roost location, and characteristics. If bats are not present and findings are negative, the report will indicate that the survey area is cleared for mobilization under the Permit.</p> <p>Passive Relocation of night roosts: If a bat night roost is found, the qualified biologist shall implement passive relocation measures, such as installation of one-way valves. A report summarizing all passive relocation activities and any follow-up to verify success shall be completed and submitted to the County prior to Permit issuance.</p> <p>Day roosts and maternity colonies: If surveys confirm that bats daytime roost in areas that would be impacted by the Project, Phillips 66 shall maintain a 300-foot buffer around bat daytime roost sites during Project activities. Bat maternity colonies may not be disturbed. If a bat maternity colony is found or if a 300-foot buffer around bat daytime roost sites is not feasible, the Applicant would consult with CDFW and the County to determine what additional avoidance, minimization, and mitigation measures are necessary. An updated bat mitigation report shall be submitted to the County and CDFW following implementation of any additional avoidance, minimization, and mitigation measures.</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building
BIO.10	Impacts to American Badgers	<p>BIO.10-1: Badger Den Preconstruction Survey and Relocation. The following measures shall be included in the BRAMMP prepared for County approval prior to issuance of County permits:</p>	Class II	Prior to County	County issuance of permit	The Applicant or designee	The BRAMMP for approval	County Department of

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>Preconstruction surveys for American badger shall be conducted within 30 days prior to initiating any construction activities under any permit. Preconstruction surveys shall cover the immediate areas of permit limits for any proposed demolition and remediation activities plus a 500-foot buffer.</p> <p>If suitable American badger dens are identified within the disturbance footprint, den openings shall be monitored with tracking medium or an infrared camera for three consecutive nights to determine current use. If the den is not in use, the den shall be excavated and collapsed to ensure that no animals are present during construction. If the den is occupied during the non-maternity period, badgers may be relocated by first incrementally blocking the den over a three-day period, followed by slowly excavating the den (either by hand or with mechanized equipment under the direct supervision of a qualified biologist, removing no more than 4 inches at a time) before or after the rearing season (February 15– June 30). Passive relocation of American badgers shall be conducted under the direction of a qualified biologist after submittal of qualifications to, and approval by, the County.</p> <p>If the preconstruction survey finds potential badger dens, the dens shall be inspected by the Lead Biologist to determine whether they are occupied. If a potential badger den is too long to completely inspect from the entrance, a fiber optic scope may be used to examine the den to the end. Inactive dens may be excavated by hand with a shovel to prevent reuse of dens during construction. If badgers occupy active dens in proposed work areas between February and July, nursing young may be present.</p> <p>To avoid disturbance and the possibility of direct impacts to adults and nursing young, and to prevent badgers from becoming trapped in burrows during construction activity, American badger dens determined to be occupied during the breeding season (February 15–June 30) shall be flagged. Between February and July, no grading or ground-disturbing activities shall occur within 100 feet of active badger dens to protect adults and nursing young. Buffers may be modified by the qualified biologist, provided the badgers are protected, and buffers only removed after the qualified biologist determines that the den is no longer in use.</p> <p>If a potential den is located outside of the disturbance footprint but within 500 feet of ground-disturbing activities (including staging areas), dens shall be avoided by installation of highly visible orange construction fencing a minimum of 100 feet from the den, designating the area an Environmentally Sensitive Area. Fencing shall be installed in a manner that allows badgers to move through the fencing at will. No equipment, vehicles, or</p>		permit issuance			and implementation	Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>personnel shall be permitted within Environmentally Sensitive Areas without clear permission from a qualified biologist.</p> <p>Following the survey, passive relocation activities and monitoring efforts, the biologist shall submit to the County a Project completion report that documents the permitting area, number of potential badger dens identified, the number occupied, and any avoidance or minimization measures implemented to avoid direct or indirect impacts to badgers. This information shall be included in the annual reporting.</p>						
BIO.11	Impacts to silver dune lupine – mock heather scrub and Central Dune Scrub	<p>BIO.11-1: Coastal Dune Scrub Avoidance. The following measures shall be included in the BRAMMP and HRRP prepared for County approval prior to issuance of County permits: Demolition and remediation activities shall be done in such a manner as to minimize the removal of Coastal Dune Scrub habitat, which includes silver dune lupine - mock heather scrub. If the disturbance of this sensitive natural community cannot be avoided, and the removal is approved by the County, the impacted plant community shall be replaced at a mitigation ratio of 2:1 for like kind habitat (i.e., silver dune lupine - mock heather scrub shall be replaced by restoring silver dune lupine - mock heather scrub, etc.). The compensation for the loss of habitats may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to construction; b) off-site creation or enhancement of dune scrub communities; or c) participation in an established mitigation bank program. If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all mitigation areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. It is the responsibility of the Applicant, or designee, to track the Dune Scrub impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP and HRRP for approval and implementation	County Department of Planning & Building
BIO.12	Impacts to County designated unmapped ESHA	<p>BIO.12-1: ESHA Protection Plan. The Applicant shall prepare an ESHA Protection Plan that addresses the steps that will be taken to minimize the projects impacts to ESHA to be included in the HRRP. The plan shall require the following:</p> <ul style="list-style-type: none"> Delineate the areas of ESHA within the Project area for each construction permit and identify on plans the square footage of ESHA, and Sensitive Communities, as applicable. The plans shall show the areas of ESHA that will be avoided and any of the areas of ESHA that will be impacted. Any disturbance or removal of ESHA must be approved by the County. 	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP and HRRP for approval and implementation	County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<ul style="list-style-type: none"> • Provide flagging or protective fencing as needed around the sensitive habitat area. • The plan shall address measures to implement if activities require driving through any areas designated as ESHA (including site assessment and soil sampling activities). Measures shall include the Biological Monitor identifying the least disturbing access corridor, cutting vegetation at ground level within the access corridor, the use of mats to drive equipment over to reduce impacts to subsurface roots and topsoil, and the removal of mats in a timely manner. • The Lead Biologist shall monitor all areas where ESHA is to be disturbed or removed. In cases of removal, the plants that can be saved shall be relocated • Prior to each permit completion or final inspection, the Biologist shall quantify the area of ESHA impacted under the permit, and verify that the replacement vegetation is in kind at the ratio(s) specified. • The final ESHA Impact Summary shall be provided to County Planning for review, and incorporated into the HRRP plan for the permit. A running total of ESHA impacted and replaced shall be maintained for the Project. <p>The impacted ESHA shall be replaced at a mitigation ratio of 1:1. If the ESHA removed consists of Sensitive communities (e.g., Coastal Dune Scrub and silver dune lupine – mock heather scrub), it shall be replaced at a mitigation ratio of 2:1 consistent with mitigation measure BIO.11-1. The compensation for the loss of habitats may be achieved either by a) on-site habitat creation or enhancement of impacted communities with similar species compositions to those present prior to construction, b) off-site creation or enhancement of dune scrub communities, or c) participation in an established mitigation bank program. If on- or off-site habitat creation or enhancement is proposed as mitigation, this shall be detailed in the HRRP required in mitigation measure BIO.1-3. The long-term protection of all mitigation areas shall be protected in perpetuity through an accompanying deed restriction in a form approved by County Counsel or conservation easement. An annual summary report of the impacted areas and mitigation acreage requirements, and updated mapping of impacted or removed ESHA within the identified Project ESHA areas shall be submitted to the County as the Project progresses, until Project permits are completed. It is the responsibility of the Applicant, or designee, to track the Dune Scrub impacted and compensatory mitigation conducted to offset these impacts as a requirement of measure BIO.1-2.</p>						

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
BIO.14	Impacts on movement of wildlife species	See BIO.4-1, BIO.5-1, BIO.6-1, BIO.7-1, BIO.8-1, BIO.8-2, BIO.9-1, and BIO.10-1.	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building
BIO.15	Conflicts with local policies, such as damage of ESHA	See BIO.12-1: ESHA Protection Plan.	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP and HRRP for approval and implementation	County Department of Planning & Building
BIO.16	Impacts to protected trees within the Coastal Zone	<p>BIO.16-1: Tree Avoidance and Replacement. The following measures shall be included in the BRAMMP and HRRP prepared for County approval prior to issuance of County permits: All trees with trunks equal to or greater than eight inches in diameter at four feet above grade shall be avoided to the maximum extent practicable. If avoidance is not feasible, the Applicant shall obtain a tree removal permit, as required pursuant to Section 23.05.064 of the CZLUO. Trees removed with trunks equal to or greater than eight inches in diameter at four feet above grade shall be replaced at the County standard 4:1 ratio, with in-kind species or a similar, native variety, and success is measured as 75% (three out of four) surviving at least five years.</p> <p>The location of replacement trees shall either be on site or within the larger property owned by Phillips 66. Compensatory mitigation shall be a condition of the Grading or the Demolition permit that requires tree removal, and the proposed tree replacement species and location shall be identified with the Permit. Prior to the Permit Inspection, the proposed Tree Monitor and a Tree Replacement Monitoring Plan shall be provided to the County for review; the replacement trees shall be planted and verified by the County prior to final Permit signoff. Compensatory mitigation trees shall be caged for protection, provided with temporary irrigation, and monitored on a quarterly basis at minimum. Any required maintenance shall also occur on a quarterly basis, at minimum. Maintenance activities would include weeding, debris removal, replanting (if necessary), repair of any vandalism, fertilizing, and/or pest control and would be dictated by the results of the quarterly monitoring effort. Supplemental water shall be provided for no more than three years after planting. Monitoring reports of the quarterly inspections and maintenance shall be prepared and submitted to the County on an annual basis. Tree replacement efforts shall achieve 75 percent success at the end of a five-year growth period (i.e., from planting date of the oldest 3 trees) and require no further maintenance for survival. The annual monitoring report submitted at Year 5 from installation of at least</p>	Class II	Prior to County permit issuance	County issuance of permit	The Applicant or designee	The BRAMMP for approval and implementation	County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

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		three replacement trees (for each mature tree removed) shall serve as a final completion report denoting success.						
Alt-Full Removal -Bio Marine. 1-1	Impacts to marine biology during the Full Removal of Facilities Alternative	<p>Alt-Fullremoval-BioMarine.1-1 Marine Protection Plan: A marine protection plan shall be developed that includes a preconstruction survey for black abalone, anchoring measures to prevent impacts from barge and vessel anchors, measures to prevent impacts from potential spills, and measures to reduce the potential for impacts to marine species. These are addressed below:</p> <p>a) Preconstruction Survey for Black Abalone: Prior to removal of the outfall, the Applicant or its designee shall conduct a survey by a qualified biologist (i.e., certified/approved by NOAA Fisheries and CDFW) within the area of impact to determine if black abalone are present. If black abalone are discovered in the work area, they shall be relocated by a qualified biologist with appropriate authorization from NOAA Fisheries and CDFW to predetermined suitable habitat areas located outside the immediate impact area. Relocation of black abalone would require a biologist with a scientific collection permit, and obtaining a Project incidental take permit and letter of authorization from CDFW. Monitoring shall also be conducted to assess the effectiveness of relocation for a duration as prescribed by NOAA Fisheries, and CDFW. Results of each such survey and relocation monitoring event shall be submitted to the County, State Lands Commission, NOAA Fisheries, and CDFW within 30 days following completion of surveys, and a final summary report submitted within 60 days following completion of construction activity.</p> <p>b) Anchoring Measures: The Applicant shall prepare marine safety and anchoring measures to avoid or minimize, as feasible, impacts to Essential Fish Habitat (EFH) Habitat of Particular Concern (HAPC) such as rocky reef habitat, canopy kelp, or eelgrass beds. The measures components would be developed following the analysis of a pre-construction seafloor habitat and bathymetric survey. Additionally, a confirmation or ground truthing survey shall be conducted to ensure that all pre-determined anchor locations are positioned in sedimentary habitats and avoid impacts to rocky substrata, kelp, or eelgrass beds. The measures shall also include the types and sizes of vessels to be anchored, anchoring and mooring systems that may be utilized, and general anchoring procedures. The measures shall be incorporated into any permits related to barge loading or offshore demolition. Documentation of the mooring system installation shall be</p>	Class I	Prior to offshore demolition permit issuance	Issuance of offshore demolition permit	The Applicant	Black Abalone Survey	CDFW, CSLC, NOAA, and County Department of Planning & Building.

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>submitted to the County within 30 days of installation to document compliance with this measure.</p> <p>c) Spill Prevention Measures: The Applicant shall provide an Oil Spill Response Plan to outline initial response and procedures to be followed in the event of an inadvertent release of hazardous materials such as fuel or oil as a result of Project activities. The plan shall include at a minimum, a description of the Project scope-of-work and geographic area; pre-work planning needed to prepare for a possible nearshore oil spill; initial response procedures including agency notifications and on-site team communications; how the waste from the oil spill will be handled and disposed of; and a description of how the area will be decontaminated and how any contaminated materials will be handled. The plan shall be reviewed and approved by various agencies including, at a minimum, the County, CSLC, CDFW, NOAA Fisheries, and the CDFW Office of Spill Prevention and Response (OSPR). Each Project vessel shall have a copy of the plan and shall maintain the required spill response equipment. Additional shore-based response equipment shall be on site, which can be used for first-response containment and collection of petroleum that reaches the shoreline. If necessary, additional personnel and equipment shall be deployed to assist in the recovery and disposal of spilled petroleum.</p> <p>d) Marine Mammal Monitoring and Protection Measures: The Applicant shall develop a Marine Mammal and Sea Turtle Mitigation and Monitoring Plan to ensure that no harassment of marine mammals or other marine life occurs during both offshore and onshore Project activities. The plan shall be developed and approved by the County as part of NOAA Fisheries, CDFW, and USFWS consultation under the Marine Mammal Protection Act, and shall include:</p> <ul style="list-style-type: none"> a. Description of the work activities including vessel size, activity types and locations, and proposed Project schedule. b. The qualifications, number, location, and roles/authority of dedicated marine wildlife observers (MWOs). c. The distance, speed, and direction transiting vessels shall maintain when in proximity to a marine mammal or turtle. d. Observation recording procedures and reporting requirements in the event of an observed impact to marine wildlife. Collisions with marine wildlife shall be reported promptly to the NOAA Fisheries, CDFW, CCC, 						

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		USFWS, and CSLC pursuant to each agency’s reporting procedures. A final report summarizing daily reports and any actions taken shall be submitted to the County, NOAA Fisheries, CDFW, CCC, CSLC, and USFWS within 60 days following completion of monitoring.						
CULTURAL AND TRIBAL CULTURAL RESOURCES (Section 4.5)								
CT.2	Substantial adverse change in the significance of previously undiscovered archaeological resources	CT.2-1: Retain a County-qualified Project Archaeologist. At the time of application for County demolition or construction permits, a Project Archaeologist whose training and background conforms to the US Secretary of the Interior’s Professional Qualifications Standards, as published in Title 36, Code of Federal Regulations, part 61 (36 C.F.R., part 61) shall be retained by the Applicant or its designee to prepare and oversee a Cultural Resources Monitoring and Discovery Plan (CT.2-3), the Cultural Resources Environmental Awareness Program (CT.2-5) training, and manage all cultural resources monitoring, mitigation, and curation, if necessary, activities for the Project. A copy of the Project Archaeologist’s qualifications shall be provided to the County of San Luis Obispo Planning and Building Department (County) for review and approval. The qualifications of the Project Archaeologist shall be appropriate to the needs of the Project and demonstrate prior experience on the Central Coast of California. The Project Archaeologist’s qualifications shall be provided by the County to the Tribes designated point of contact with whom the County conducted Assembly Bill (AB) 52 consultation for the Project (hereinafter referred to as “appropriate consulting Tribes”) for review and comment prior to approval by the County.	Class II	At the time of application for County demolition and construction permits	Submittal of County permit applications	The Applicant or designee	Submittal of proposed Project Archaeologist qualifications	County Department of Planning & Building
CT.2	Substantial adverse change in the significance of previously undiscovered archaeological resources	CT.2-2: Retain County-qualified Project Archaeological Monitors. Prior to application for County demolition or construction permits, Project Archaeological Monitors shall be retained by the Applicant or its designee to assist in the monitoring, mitigation, and curation activities for the Project. The Monitors shall have the following minimum qualifications: 1. A BS or BA degree in anthropology, archaeology, historic archaeology, or a related field and two years’ experience monitoring in California including demonstrated experience with coastal cultural resources. Preference will be given to those with demonstrated experience along the coast of Central California; or 2. An AS or AA degree in anthropology, archaeology, historic archaeology, or a related field and four years’ experience monitoring in California including demonstrated experience with coastal cultural resources. Preference will be given to	Class II	Prior to the application for County demolition and construction permits	Issuance of County permit	The Applicant or designee	Archaeological Monitor Qualifications	County Department of Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>those with demonstrated experience along the coast of Central California; or</p> <p>3. A BS or BA degree and enrollment in graduate level classes pursuing a Master’s degree in the fields of anthropology, archaeology, historic archaeology, or a related field and two years of monitoring experience in California including demonstrated experience with coastal cultural resources. Preference will be given to those with demonstrated experience along the coast of Central California. If the Monitor’s undergraduate degree is not in anthropology, archaeology, or a related field, two graduate classes in anthropology or archaeology must have been completed prior to the Monitor working on site.</p> <p>A Monitor with a degree in historic archaeology must also have completed coursework in anthropology or archaeology and have demonstrated experience monitoring for California prehistoric archaeological resources.</p> <p>A copy of each Monitor’s qualifications shall be provided to the County for review and approval. Each Monitor’s qualifications shall be provided by the County to the appropriate consulting Tribes for review and comment prior to approval by the County.</p>						
CT.2	Substantial adverse change in the significance of previously undiscovered archaeological resources	<p>CT.2-3: Develop a Cultural Resources Monitoring and Discovery Plan. At the time of application for County demolition and construction permits, the Project Archaeologist shall develop and submit a Cultural Resources Monitoring and Discovery Plan (CRMDP) to the County for review and approval. No ground disturbing activities can occur until the CRMDP is approved by the County. A draft of the CRMDP shall be provided by the County to the appropriate consulting Tribes and an independent third-party County qualified archaeologist for a 45-day review and comment period. No ground disturbance can occur before approval of any construction-related permits by the County.</p> <p>At a minimum, the CRMDP shall include the following:</p> <ol style="list-style-type: none"> 1. An introduction outlining the project description, purpose for monitoring, summary of resources studies or description of known resources, anticipated construction schedule, anticipated impacts to cultural resources, if discovered, curation, and treatment options. Permanent curation of cultural resources will not take place unless approved in writing by the appropriate consulting Tribes. 2. A description of the monitoring personnel involved with the Project (Project Archaeologist, Archaeological Monitors, and Chumash Tribal Monitors (CT.4-1) and their responsibilities, which shall include but are not limited to: 	Class II	At the time of application for County demolition and construction permits	Issuance of permit	The Applicant or designee	County-approved CRMDP	County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

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		<ul style="list-style-type: none"> a. A list of personnel involved in the monitoring activities and their availability; b. A description of how the monitoring shall occur; c. A description of how the monitoring schedule will be developed and implemented given that different areas of ground disturbance may occur simultaneously; d. A description of what resources could be encountered and where they could be encountered; and e. A description of monitoring reporting procedures. <ul style="list-style-type: none"> 3. A description of the Cultural Resources Worker Environmental Awareness Program training (CT.2-5) and when and how that will take place. 4. Definition and description of authorities, protocols, and procedures for halting and/or pausing work in order to record, evaluate, and identify any necessary treatment for any cultural resources encountered. This shall include protocols for ensuring all treatment or recovery of cultural resources is completed prior to work resuming in the area of the find. 5. Information that the Project Archaeologist, Archaeological Monitor(s), and the Chumash Tribal Monitor(s) shall have the authority to halt ground disturbing activities in the event cultural resources are encountered as a result of that ground disturbing activity. 6. Details regarding the immediate cessation of ground disturbing activities within a minimum of 100 feet of the discovery of any cultural resources or human remains and measures to delineate the area with clearly visible lath, flagging tape, or other marking. The County and the appropriate consulting Tribes shall be consulted on a determination of significance. 7. Notification procedures of unanticipated discoveries of cultural resources including human remains (CT.2-4). The County and appropriate consulting Tribes shall be notified of a discovery as soon as possible but no later than 24 hours of the find. If the discovery occurs on a Friday, the County can be notified the following Monday morning. 8. Specific in-field procedures for collecting, handling, and categorizing cultural resources, including human remains, encountered and a detailed process for evaluating unanticipated discoveries. 9. Development of a preliminary treatment plan which shall, at a minimum, include: <ul style="list-style-type: none"> a. A description of the treatment options for each type of resource which include, in order of priority: 1) preservation in place, where feasible; 2) the development 						

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		<p>of a treatment plan, archaeological testing, or data recovery; 3) reburial as close as possible to the location where all artifacts, remains, and/or funerary objects were found; and 4) reburial near the Project site. Any Chumash cultural materials disinterred as a result of this Project shall be curated or reinterred upon determination by the Most Likely Descendant (MLD) after notification by the Project Archaeologist to the appropriate consulting Tribes. Reinterment shall be conducted on a weekly basis or as deemed appropriate by the MLD after notification by the Project Archaeologist to the appropriate consulting Tribes.</p> <p>b. The location of a secured, on-site storage area for recovered artifacts and human remains shall be identified before any ground disturbing activities occur. The location shall be determined in consultation with the appropriate consulting Tribes.</p> <p>c. In the event of a human remains discovery, the County and appropriate consulting Tribes shall be notified by the Applicant or Project Archaeologist no later than 24 hours of the find along with one of the proposed treatment options outlined above, by the MLD, in consultation with the Applicant. The County and appropriate consulting Tribes shall be given 72 hours from the time of notification to provide comments on the proposed treatment option to the MLD.</p> <p>d. In the event human remains are discovered, a Project Osteologist shall be retained by the Applicant or its designee to assist in the identification of any human remains. The Project Osteologist shall have the following minimum qualifications:</p> <ol style="list-style-type: none"> 1. A graduate degree in archaeology, forensic anthropology, or related discipline, with four years' experience working with archaeological and Tribal Cultural resources in California; 2. If an Osteologist with four years' experience is not available, a candidate with no less than two years' experience may be considered; and 3. A copy of the Project Osteologist's qualifications shall be provided to the County for review and approval. The Project Osteologist's qualifications shall be provided by the County to appropriate consulting Tribes for review and comment prior to approval by the County. 						

7.0 Mitigation Monitoring and Reporting Program

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		<p>e. For the location near the Project site for reburial of human remains and artifacts, the location must be surveyed prior to its use, to determine if the location may be used (i.e., there are no biological and/or cultural/tribal resources sensitivities). In addition, the location must be limited to the reburial of human remains and artifacts from the Phillips 66 SMR site. Lastly, the location, if needed, must be put under a deed restriction, protecting any reburials of human remains and artifacts in perpetuity.</p> <p>f. A commitment from the Applicant to pay all treatment costs for artifacts, funerary objects, and remains discovered, from discovery to reinterment, and for related documentation produced, if any, during cultural resources investigations conducted for the Project.</p> <p>10. Procedures for the Project Archaeologist, the Applicant, or its contractors to provide immediate notification to the County of San Luis Obispo Planning and Building Department and the appropriate consulting Tribes and immediately cease any earthwork conducted outside the limits of the approved grading plan or land use permit as these activities require prior approval by the County.</p> <p>11. Outline of reporting procedures, including monthly summary reports and an annual archaeological monitoring report to be submitted by the Project Archaeologist to the County of San Luis Obispo Planning and Building Department and appropriate consulting Tribes for review throughout the duration of Project disturbance activities. The County shall provide copies of the plan to the appropriate consulting Tribes for review. Formal technical reports are required for any archaeological testing or data recovery conducted. Annual archaeological monitoring reports and any technical testing or data recovery reports shall be submitted to the County and Central Coast Information Center. Upon completion of all monitoring or treatment activities at Project completion, the Project Archaeologist shall submit a final report under confidentiality to the County summarizing all monitoring/treatment activities. The County shall provide copies of the confidential final report to the appropriate consulting Tribes.</p> <p>Phillips 66 or its designee(s) will consult with the County and appropriate consulting Tribes to develop measures for long term management of any discovered resources, including any routine maintenance that may need to occur within discovered culturally sensitive areas that retain resource integrity, including tribal</p>						

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		cultural integrity, and including archaeological material, Traditional Cultural Properties, and cultural landscapes, in accordance with state and federal guidance including National Register Bulletin 30 (Guidelines for Evaluating and Documenting Rural Historic Landscapes), Bulletin 36 (Guidelines for Evaluating and Registering Archaeological Properties), and Bulletin 38 (Guidelines for Evaluating and Documenting Traditional Cultural Properties).						
CT.2	Substantial adverse change in the significance of previously undiscovered archaeological resources	<p>CT.2-4: Inadvertent Discoveries. In the event that Tribal Cultural Resources, archaeological, or cultural resources are exposed during demolition or remediation, all ground disturbing activity occurring within a minimum of 100 feet of the find shall immediately stop until the Project Archaeologist, Archaeological Monitor, and Chumash Tribal Monitor(s) can evaluate the significance of the find and determine, in consultation with the County of San Luis Obispo Planning and Building Department, whether additional study is warranted, including any efforts necessary to delineate the resource boundary.</p> <p>The area of the discovery shall be delineated with clearly visible lath, flagging tape, or other marking and the County notified within 24 hours of a discovery. If the discovery occurs on a Friday, the County can be notified the following Monday morning.</p> <p>Depending upon the significance of the find, the Project Archaeologist or Archaeological Monitor and Chumash Tribal Monitor may record the find and allow work to continue. The County shall be consulted on a determination of significance. If the discovery proves significant under the California Environmental Quality Act (CEQA), every effort will be made to preserve the resource in place, if possible. If avoidance/preservation in place is not feasible, specific resource documentation or recovery shall be implemented in accordance with the treatment options in the CRMDP (CT.2-3), including, but not limited to, the preparation of a treatment plan, archaeological testing, or data recovery.</p> <p>During the assessment and potential treatment time, construction work may proceed in other areas outside the minimum 100-foot buffer consistent with CT.2-3. Work at the discovery location cannot resume until all necessary investigation and evaluation under CEQA, Tribal consultation, and/or the procedures under PRC Section 5097.98 and Health and Safety Code Section 7050.5 have been satisfied and released by the County. This requirement shall be reproduced on all grading and construction plans for the Project.</p>	Class II	During Project demolition and remediation activities	Notification and consultation with County Planning and Building staff at time of discovery. Issuance of permit	The Applicant or designee	Construction Note on Plans	County Department of Planning and Building.
CT.2	Substantial adverse change in the significance	<p>CT.2-5: Cultural Resources Worker Environmental Awareness Program. Prior to and for the duration of any ground disturbance, the Applicant or its designee shall provide Cultural Resources Worker Environmental Awareness Program (WEAP) training to all</p>	Class II	No more than 135 days prior to Project-	County approval of WEAP.	The Applicant or designee	County-approved WEAP	County Department of Planning and Building.

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Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
	of previously undiscovered archaeological resources	<p>new workers prior to any new worker beginning work on the Phillips 66 SMR site.</p> <p>The training program shall be developed by the Project Archaeologist with input from appropriate consulting Tribes and may be presented in the form of a video. A draft of the training program shall be provided to the County of San Luis Obispo Planning and Building Department for review and approval no fewer than 135 days prior to any Project-related ground disturbance at the site. A draft of the training program (i.e., video and written materials shall be provided by the County to the appropriate consulting Tribes for a 45-day review and comment period, prior to approval by the County. The training may be conducted concurrent with other environmental training (e.g., biological resources awareness training, safety training, etc.).</p> <p>The training shall include, at a minimum:</p> <ol style="list-style-type: none"> 1. An overview by a tribal member from the appropriate consulting Tribes; 2. A description of the types of Tribal Cultural Resources, archaeological, and cultural resources that may be encountered during demolition and remediation activities; 3. Steps to follow in the event of an unanticipated discovery; 4. Contact information for the County of San Luis Obispo Planning and Building Department, Project Archaeologist, Archaeological and Chumash Tribal Monitors, and appropriate consulting Tribes; 5. Samples or visual of artifacts that might be found on the site; 6. Information that the Project Archaeologist, Archaeological Monitors, and Chumash Tribal Monitors shall have the authority to halt ground disturbing activities in the event previously unknown, or suspected cultural resources are encountered as a result of that ground disturbing activity; 7. Instructions that workers are to halt work on their own within 100-feet of a potential cultural resource discovery, shall contact their supervisor and the Project Archaeologist or Archaeological Monitor, and that redirection of work shall be determined by the Project Archaeologist and Chumash Tribal Monitors; 8. Emphasize the requirement for confidentiality and culturally appropriate treatment of any discovery of significance to Native Americans and discuss appropriate behaviors and responsive actions, consistent with Native American tribal values; 9. An information brochure that identifies reporting procedures in the event of a discovery; 		related ground disturbance	Issuance of permit			

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>10. An acknowledgement form signed by each worker indicating that the worker has received the training and will abide by the Project requirements; and</p> <p>11. A sticker that shall be placed on hard hats indicating that environmental training has been completed.</p> <p>The Applicant or its designee shall provide to the County, within a Project Monthly Compliance Report (CT.4-2), the WEAP training acknowledgement forms for persons who have completed the training in the prior month and a running total of all persons who have completed the training to date.</p>						
CT.3	Disturbance or destruction of unknown human remains	<p>CT.3-1: Discovery of Human Remains. In the event human remains are discovered during demolition all Project activity shall immediately cease with a minimum of 100 feet of the discovery site, and the area delineated with clearly visible lath, flagging tape, or other marking. The County and appropriate consulting Tribes must be notified within 24 hours of the find as outlined in the CRMDP (CT.2-3). The Applicant or its designee shall comply with Section 15064.5 (e) (1) of the State CEQA Guidelines, and the procedures described in Section 7050.5 of the California Health and Safety Code. The Project Archaeologist and Project Osteologist with a Chumash Tribal Monitor shall inspect the remains and confirm that they are human, and if so, shall immediately notify the County Coroner in accordance with PRC Section 5097.98 and Health and Safety Code Section 7050.5. Treatment, handling, and storage of remains will follow the protocols outlined in the CRMDP (CT.2-3).</p> <p>If the coroner determines the remains are Native American, the coroner shall contact the Native American Heritage Commission (NAHC). As provided in PRC Section 5097.98, the NAHC will notify the person or persons it believes to be the Most Likely Descendent (MLD) from the deceased Native American. The MLD must follow the procedures and preliminary treatment options in the CRMDP and make a recommendation to the County and appropriate consulting Tribes for means of treating, with appropriate dignity, the human remains, and any associated grave goods as provided in PRC Section 5097.98 and as outlined in CT.2-3, above. If more than one MLD is designated for the Project by the NAHC, each MLD shall be consulted regarding the handling of the human remains, and any associated grave goods and/or burial related soils. Burial associated grave goods and soil shall be reinterred with the associated burial. This measure shall be included in the CRDMP.</p>	Class II	N/A	N/A	The Applicant or designee	Notification of County and consulting Native American Tribes	N/A
CT.4	Substantial adverse change in the	<p>CT.4-1: Retain Chumash Tribal Monitors. At the time of application for any County Grading or Construction Permit, Chumash Tribal Monitors from appropriate consulting Tribes shall</p>	Class II	At the time of permit application;	Issuance of permit	The Applicant or designee	Identification of retained	County Department of

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
	significance of previously undiscovered tribal cultural resources	be retained by the Applicant or its designee to assist in the monitoring, mitigation, and curation activities for the Project.		prior to any permit issuance			Chumash Tribal Monitors	Planning & Building
CT.4	Substantial adverse change in the significance of previously undiscovered tribal cultural resources	<p>CT.4-2: Archaeological and Tribal Monitoring. During and throughout all Project-related activities, including soil testing, Archaeological Monitors and Chumash Tribal Monitors shall conduct full-time on-site monitoring during all ground disturbing activities, including those occurring in previously disturbed soil and soil sampling associated with remediation activities. Monitoring may not be required during hydroseeding or paving activities, unless an exception is demonstrated as warranted by the Project Archaeologist and approved by the County of San Luis Obispo Planning and Building Department, after consultation with the appropriate consulting Tribes.</p> <p>Where multiple areas of work are concurrently permitted for grading or disturbance, or where multiple pieces of equipment are operating within the same work area, there shall be multiple monitors, at least one for each area, and a sufficient number of Archaeological Monitors and Chumash Tribal Monitors shall be on site to ensure all concurrent activities are monitored. The Chumash Tribal Monitors may be rotated to ensure that all appropriate consulting Tribes can observe the areas of work. The Project Archaeologist shall be responsible for creating monitoring schedules for the Archaeological Monitors and Chumash Tribal Monitors, and specifying the locations where they will monitor.</p> <p>The Archaeological Monitors shall work under the direction of the Project Archaeologist and shall submit daily logs detailing the types of activities, soils observed, and any discoveries to the Project Archaeologist. The daily log shall also identify the nature of any resource found and the method of mitigation treatment. The Project Archaeologist shall prepare a weekly summary report, with all daily monitoring logs appended, on the progress or status of cultural resources related activities which shall be provided to the appropriate consulting Tribes on a weekly basis. The weekly summary reports shall be provided to the County in the Project Monthly Compliance Report.</p> <p>Cultural resources monitoring activities are the responsibility of the Project Archaeologist. Any interference with monitoring activities, removal of a monitor from duties assigned by the Project Archaeologist, or direction to a monitor to relocate or cease monitoring activities by anyone other than the Project Archaeologist shall be considered a non-compliance event. In the event a Chumash Tribal Monitor is dismissed from monitoring and</p>	Class II	During and throughout all Project-related activities; prior to any permit issuance	Issuance of permit	The Applicant or designee	Weekly summary reports	County Department of Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>the County determines this to be in error, the Chumash Tribal Monitor will be compensated for time lost by the Applicant. Any disagreements between the Project Archaeologist and Chumash Tribal Monitors shall be brought to the County’s attention for resolution.</p> <p>The Project Archaeologist or appropriate consulting Tribes shall notify the Applicant and the County by telephone or email, of any incidents of non-compliance with any cultural resource mitigation measure or condition within 24 hours of becoming aware of the situation. The Project Archaeologist and appropriate consulting Tribes shall also recommend corrective action(s) to resolve the problem or achieve compliance with the mitigation measure or Project condition.</p> <p>In the event of a non-compliance issue, the Project Archaeologist shall write a report within two weeks after resolution of the issue that describes the issue, resolution of the issue, and the effectiveness of resolution measures. The report shall be provided in the next Monthly Compliance Report, which is submitted to the County. The Applicant or its designee shall also provide a copy of the non-compliance report to the consulting Tribe when issued to the County.</p>						
HAZARDS AND HAZARDOUS MATERIALS (Section 4.9)								
HAZ.1	Hazards due to routine transport, use, or disposal of hazardous materials	<p>HAZ.1-1: Contaminated Soil Management Plan. The Project Applicant shall prepare and follow a contaminated soil handling management plan in coordination with the San Luis Obispo County Air Pollution Control District (SLOCAPCD) that provides the procedures for addressing the following issues: Soil samples that exceed reactive organic compound (ROC) concentrations of 50 parts per million (ppm) require special soil handling procedures to be implemented under the plan. Those special soil vapor testing and handling procedures would include:</p> <ol style="list-style-type: none"> 1. Assuring sufficient moisture content of the soil to prevent dust during soil movement; 2. Covering excavated soil with tarps/impermeable coverings, or applying soil seal or “soil-ement” or equivalent, to minimize the generation of wind-blown dust as well as minimize ROC emissions; 3. Conduct ROC monitoring every 15 minutes during excavation activities; 4. The Plan shall include a compliance reporting schedule, a description of the information to be reported to the County, and include a sample report form. 	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Approved Contaminated Soil Management Plan	County Department of Planning & Building and SLOCAPCD
HAZ.2	Reasonably foreseeable upset &	<p>HAZ.2-1: Spill Response Planning. The Applicant shall prepare an Oil/Hazardous Material Spill Contingency Plan (Spill Contingency Plan) (including provisions for spill prevention,</p>	Class II	Prior to County	Issuance of County permit	The Applicant or designee	Spill Contingency Plan	California Coastal Commission,

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
	accident conditions involving release of hazardous materials	control, and countermeasures/responses) that demonstrates that effective prevention, protection, containment, and clean-up equipment and procedures will be in place to protect coastal resources in the event of such spills. The Plan must, at a minimum include/identify: <ol style="list-style-type: none"> 1. The sources of potential spills; 2. Spill prevention measures to minimize the risk of such spills; 3. A worst-case spill assessment, and identification of the coastal resources at risk from spill impacts at representative levels up to and including the worst-case spill; 4. A response capability analysis of the equipment, personnel, and strategies (both on site and under contract) capable of responding to spills, again at representative levels up to and including the worst case spill; 5. Spill control, drainage and management at the Project site; 6. Spill notification procedures to be implemented in the event of a spill; and 7. The Plan shall include a compliance reporting schedule, describe the information to be reported to the County, and include a sample report form. The Spill Contingency Plan must adequately cover all activities related to facility demolition and remediation (both aboveground and belowground), as well as the handling, transfer, and transportation of materials (e.g., via truck and/or train, etc.) to off-site locations. It must identify the reporting thresholds and requirements and identify the person/party responsible for monitoring and implementing actions needed.		permit issuance				Central Coast Water Board, and County Department of Planning & Building
HAZ.2	Reasonably foreseeable upset & accident conditions involving release of hazardous materials	HAZ.2-2: Asbestos and Lead Handling Plan. The Applicant shall comply with asbestos-containing material (ACM) and lead-containing materials handling requirements detailed in a ACM/Lead Handling Plan. Requirements of the plan shall include requirements stipulated in the National Emission Standard for Hazardous Air Pollutants (40 CFR 61, Subpart M - asbestos NESHAP) and those of the SLOCAPCD for lead. These requirements include but are not limited to: <ol style="list-style-type: none"> 1. Notification to the SLOCAPCD; 2. An asbestos survey conducted by a Certified Asbestos Inspector; 3. Applicable removal and disposal requirements of identified ACM. More information on asbestos is available at http://www.slocleanair.org/business/asbestos.php; and 4. Obtaining a SLOCAPCD permit, as necessary, for lead-based paint removal activities. 	Class II	Prior to County demolition permit issuance	Issuance of County demolition permit	The Applicant or designee	Approved ACM and Lead Handling Plan	SLOCAPCD and County Department of Planning & Building

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
HAZ.4	Hazards due to hazardous materials sites	HAZ.4-1: Sitewide Sampling and Remediation Plan. The Applicant shall develop a plan that includes sitewide sampling of soils and remediation details to ensure that all areas of the site are appropriately remediated. The plan shall address measures to be performed if groundwater is suspected to be contaminated and shall include a contaminated soil management plan. The plan shall include sampling intervals and patterns delineated on maps, and include all process, tank, and coke areas. It shall define testing requirements and methods, including coke area leaching testing to ensure that groundwater is protected. It shall include measures to prevent runoff from contaminated soils during remediation activities. It shall define measures to be taken if additional contamination is discovered, such as in soils outside the site or in groundwater. It shall also define the management and containment and handling of contaminated soils. It shall also include sampling of proposed backfill materials analyzed for potential contaminants of concern to confirm that it is clean prior to use as backfill. The Plan shall include a compliance reporting schedule, describe information to be reported to the County and other agencies, and include a sample report form. The reports shall be provided monthly at a minimum.	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Approved Sampling and Remediation Plan	Central Coast Water Board and County Department of Planning & Building
HAZ.7	Risk of loss, injury, or death involving wildland fires	HAZ.7-1: Fire Response Planning. The Applicant shall ensure that fire response capabilities are in place during the entire Project, including the following: <ol style="list-style-type: none"> 1. All construction/demolition plans and use of the facility shall comply with all applicable standards, regulations, codes, and ordinances at time of Building Permit issuance; 2. A registered Fire Protection Engineer is required to provide a written technical analysis of the fire protection requirements for the demolition of the structures under each permit; 3. Project has existing water service that will need to be maintained and tested to NFPA 25 California addition; 4. Access roads shall be maintained to support apparatus weighing 75,000 lbs. Access to structures during the Project will remain open; 5. Provide fire department access roads to within 150 feet of any exterior portion of the buildings as measured by an approved route around the exterior of the building or facility; 6. Gates for driveways and/or roadways shall comply with the California Fire Code (CFC) Sec. 503; 7. Fire hydrants shall be tested and maintained per NFPA 25 2016 edition during demolition; 8. Commercial - Fire Department Connections (FDC) for automatic sprinkler systems shall be located fully visible and recognizable from the street or fire apparatus access roads; 	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Fire Response Assessments, a Wildland Fuel Management Program, and description of capabilities noted on all construction plans	CAL FIRE/County Fire and County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>9. Fire equipment to remain in service until last possible minute. Ex. Fire Sprinklers/standpipes/hydrants etc. CFC 905 & Chapter 33 buildings being demolished will require fire protection systems to remain in operations with NFPA 25-California for testing and maintenance;</p> <p>10. All buildings shall comply with CFC, Chapter 10 Means of Egress requirements. Including but not limited to; exit signs, exit doors, exit hardware and exit illumination. Additional egress requirements for demolition will be referenced in CFC Chapter 33;</p> <p>11. Provide 100 feet of defensible space around all structures. This Project will develop and maintain a wildland fuel management program to provide fire safe zones around the facility and access roads. CFC Ch. 49 Wildland-Urban Interface Areas;</p> <p>12. All demolition will meet CFC Chapter 33 and NFPA 241 references;</p> <p>13. Project shall have a Hazardous Material Plan that addresses CFC Chapter 50. CFC 5001 and Facility Closer. 5001.5.2 Inventory Statement;</p> <p>14. Cutting and welding shall comply with CFC 3304.6 and NFPA 51B;</p> <p>15. Fire Watch shall conform to CFC 3304.5;</p> <p>16. Approved vehicle access for firefighting shall be provided to all construction or demolition sites. Vehicle access shall be provided to within 100 feet (30 480 mm) of temporary or permanent fire department connections. Vehicle access shall be provided by either temporary or permanent roads, capable of supporting vehicle loading under all weather conditions. Vehicle access shall be maintained until permanent fire apparatus access roads are available;</p> <p>17. Include with plans upon submittal the signed agreed upon operational plan stated in Project Description;</p> <p>18. Fire extinguishers are required in accordance with CFC 3315 and 906;</p> <p>19. All construction equipment used for any vegetation clearing shall be equipped with spark arrestors, and monitoring and training to prevent vehicle traffic off roadways to ensure activities do not impact dry brush and lead to fire;</p> <p>20. Requirements shall be posted at all construction areas and placed on construction plans; and</p> <p>21. If firefighting foam is proposed for use, it shall be PFAS-free.</p>						

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
HYDROLOGY AND WATER QUALITY (Section 4.10)								
HWQ.1	Degrade surface water quality and groundwater quality.	See HAZ.2-1: Spill Response Planning	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Spill Contingency Plan	California Coastal Commission, Central Coast Water Board, and County Department of Planning & Building
LAND USE AND PLANNING (Section 4.11)								
LUP.2	Conflict with General Plan COSE Policy AQ 3.3 regarding air pollutant emissions	See AQ.1-1: Demolition & Remediation Activity Management Plan (DRAMP) and AQ.3-1 Clean Construction Equipment	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Approved De-commissioning & Remediation Activity Management Plan (DRAMP)	SLOCAPCD, County Public Health, and County Department of Planning & Building
NOISE (Section 4.12)								
NOI.1	Temporary increase in ambient noise levels in the Project vicinity	NOI.1-1: Nighttime Activities Limits. Noise activities during the nighttime shall be prohibited in order to reduce the potential for impacts to surrounding residences and other sensitive receptors. County Land Use Ordinance 23.06.040 construction time limits (Noise sources associated with construction shall not take place before 7:00 a.m. or after 9:00 p.m. any day except Saturday or Sunday, or before 8:00 a.m. or after 5:00 p.m. on Saturday or Sunday). This requirement shall be incorporated into the NOI.1-2 Construction Noise Control Management Plan, reproduced on plans submitted for permits, and strictly enforced throughout construction.	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Construction Noise Control Management Plan, and description of requirements on all construction plans	County Department of Planning & Building
NOI.1	Temporary increase in ambient noise levels in the Project vicinity	NOI.1-2: Construction Noise Control Measures. The Applicant shall provide the following construction noise control performance, implementation, management, and reporting measures, described in a Construction Noise Control Management Plan: 1. All noise-producing construction equipment and vehicles using internal combustion engines shall be equipped with critical grade mufflers, air-inlet silencers where appropriate, and any other shrouds, shields, or other noise-reducing features in good operating condition and appropriate for the equipment that meet or exceed original factory specifications. Mobile or fixed “package” equipment (e.g., arc-welder, air compressors) shall be equipped with shrouds and noise control features that are readily available for that type of equipment; 2. All heavy-duty stationary construction equipment (including generators and crushers/pulverizers) shall be placed so that	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Construction Noise Control Management Plan and description of requirements on all construction plans	County Department of Planning & Building

7.0 Mitigation Monitoring and Reporting Program

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		<p>emitted noise is directed away from the nearest sensitive receptors;</p> <ol style="list-style-type: none"> 3. Smart back-up alarms shall be used with mobile construction equipment that automatically adjust the sound level of the alarm in response to ambient noise levels or back-up alarms shall be disabled and replaced with human spotters to ensure safety when mobile construction equipment is moving in the reverse direction; 4. Limit unnecessary idling of construction equipment; 5. Communication or music systems shall not be audible at any adjacent receptor; 6. Inform residents and other noise sensitive receptors within 3,000 feet of Project work areas of anticipated noise disturbances two to four weeks prior to construction, including a contact telephone number to register noise complaints. The Project Applicant shall ensure that a noise liaison is assigned to respond to all public construction noise complaints in a timely manner, and either a) the telephone number is staffed by the noise liaison during construction hours; or b) the phone number is connected to an automatic answering feature, with date and time stamp recording, to answer calls when the phone is unattended; 7. Noise complaints shall be forwarded to the County of San Luis Obispo Planning and Building Department within 24 hours, along with the Owner/Applicant’s initial response to the complaint; 8. The noise complaint telephone number shall be posted in a manner visible to passersby and provided individually to potentially affected residences as part of the notification efforts; 9. Should a complaint be received and verified as determined by the County, the Applicant shall do the following to reduce noise: <ol style="list-style-type: none"> a. Schedule construction activities to avoid operating construction spreads in the same location or the same distance from the same receptor simultaneously, with a minimum separation distance of 1,000 feet between spreads (relative to the same receptor); b. Install barriers or shrouds between the noisy construction equipment (generators and crushers/pulverizers) and the closest noise receptor; and c. Conduct noise monitoring at the construction site and along the site boundary and at the closest receptor to ensure noise levels do not exceed a 10 dBA Leq increase over background levels at the closest residence. 						

Table 7.1 Phillips 66 SMR Demolition and Remediation Project – Impacts and Mitigation Measures

Impact #	Description of Impact*	Mitigation Measures	Residual Impact	Submittal Timing	Approval Trigger	Responsible Party	What is Required	To Whom Submitted
		10. The Plan shall include a compliance reporting schedule and outline the information to be reported to the County, and include a sample report form.						
TRANSPORTATION (Section 4.15)								
TR.1	Traffic impacts on roadways in the Project vicinity and increase in vehicle miles traveled	<p>TR.1-1: Construction Traffic Management Plan. Prior to issuance of demolition permits, the Applicant shall develop a Construction Traffic Management Plan for review and approval by County Department of Planning and Building, County Department of Public Works, and Caltrans. The plans shall include at least the following items:</p> <ol style="list-style-type: none"> 1. A scheduling plan showing operational schedules to minimize traffic congestion during peak hours. The plan shall limit Project-related traffic to and from the SMR during the peak AM and PM hours. This plan shall note the schedule for completing various demolition and remediation activities. The plan shall show the hours of operation to minimize traffic congestion during peak hours; 2. Willow Road shall be used for truck deliveries to and from the SMR; 3. Monitoring program for street surface conditions so that damage or debris resulting from construction of the Project can be identified and corrected by the Applicant; 4. A traffic control plan showing proposed temporary traffic control measures, if any; and 5. A delivery schedule for construction materials and equipment. 	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Submittal of a Construction Traffic Management Plan	Caltrans, County Department of Public Works, and County Department of Planning and Building.
WILDFIRE (Section 4.16)								
WF.1	Exacerbated wildfire risk	See HAZ.7-1: Fire Response Planning	Class II	Prior to County permit issuance	Issuance of County permit	The Applicant or designee	Fire Response Assessments, a Wildland Fuel Management Program, and description of capabilities noted on all construction plans	CAL FIRE/County Fire and County Department of Planning & Building

* Refer to the respective issue area sections of the EIR for the full text of the impact description and its relation to the respective significance thresholds.

7.0 Mitigation Monitoring and Reporting Program

Table 7.2 Mitigation Measure Required Plans

Required Plan	Mitigation Measure
Demolition & Remediation Activity Management Plan (DRAMP)	AQ.1-1
Odor Control and Purging Plan	AQ.4-1
Air Quality Recordkeeping Plan	AQ.5-1
Worker Environmental Awareness Program (WEAP)	BIO.1-1
Biological Resources Adaptive Management & Monitoring Plan (BRAMMP)	BIO.1-2
Habitat Restoration and Revegetation Plan (HRRP)	BIO.1-3
Weed Management Plan (WMP)	BIO.1-4
ESHA Protection Plan	BIO.12-1
Cultural Resources Monitoring and Discovery Plan	CT.2-3
Cultural Resources Worker Environmental Awareness Program (WEAP)	CT.2-5
Contaminated Soil Management Plan	HAZ.1-1
Spill Response Plan	HAZ.2-1
Asbestos and Lead Handling Plan	HAZ.2-2
Sitewide Sampling and Remediation Plan	HAZ.4-1
Construction Noise Control Management Plan	NOI.1-2
Construction Traffic Management Plan	TR.1-1
Offshore Alternatives Only	
Marine Protection Plan Oil Spill Response Plan Marine Mammal and Sea Turtle Mitigation and Monitoring Plan	Alt- BioMarine. 1-1

8.0 List of Preparers and Contacts

This Draft Environmental Impact Report (EIR) was prepared by the County of San Luis Obispo Department of Planning and Building, Decommissioning Division (County) staff, with assistance from MRS Environmental, Inc. (MRS) under contract to the County. Substantial information was also provided by the Applicant. Information provided by the Applicant was reviewed by the County prior to inclusion in the Draft EIR.

The Applicant and their consultants were not directly involved in the preparation of the environmental analyses in the Draft EIR but did review the Chapter 2.0 covering the Project Description. The Applicant also provided several technical studies as part of their application. These studies were all peer reviewed by the County and their consultants, and many of the studies were updated by the Applicant based upon the County peer review. The Applicant also provided additional technical information in response to information requests by the County during the preparation of the Draft EIR. The Appendices provide some of the final technical reports submitted by the Applicant.

The County also coordinated with the San Luis Obispo County Air Pollution Control District (SLOCAPCD) on the air quality and greenhouse gas emissions sections of the Draft EIR.

The following persons associated with the County Department of Planning and Building were directly involved in preparing the Draft EIR:

- Susan Strachan, Decommissioning Manager
- Cindy Chambers, Senior Planner
- Jon Ansolabehere, Assistant County Counsel

The following persons were contacted in preparing this Draft EIR, in addition to those listed above:

- Air Pollution Control District - Andy Mutziger
- CA State Lands Commission - Nicole Dobrowski
- CA. Coastal Commission - Ryan Moroney
- California Department of Fish and Wildlife - Larry E. Bonner
- California Department of Fish and Wildlife - Evelyn Barajas-Perez
- California Department of Fish and Wildlife - Shaelyn Latronica
- California State Lands Commission - Kenneth Foster
- Central Coast Regional Water Quality Control Board - Shiela Soderberg
- Central Coast Regional Water Quality Control Board - Amber Sellinger
- Central Coast Regional Water Quality Control Board - Sarah Crable

8.0 List of Preparers and Contacts

- Coastal Band of the Chumash Nation - Michael Khus
- County of San Luis Obispo Planning and Building Department - Elizabeth Moreno
- County of San Luis Obispo Planning and Building Department - Elizabeth Szwabowski
- County of San Luis Obispo Planning and Building Department - Eric Hughes
- County of San Luis Obispo Planning and Building Department - Sylvia Aldana
- Northern Chumash Tribal Council - Ernie Houston
- Northern Chumash Tribal Council - Violet Sage Walker
- Salinan Tribe of Monterey and SLO Counties - Patti Dunton
- San Diego Botanic Garden - Joe DeWolf
- San Luis Obispo Council of Governments - Sara Sanders
- San Luis Obispo Local Agency Formation Commission - Rob Fitzroy
- Santa Ynez Band of Chumash - Crystal Mendoza
- Santa Ynez Band of Chumash - Sam Cohen
- Santa Ynez Band of Chumash - Wendy Teeter
- U.S. Army Corps of Engineers - Antal Szijj
- U.S. Fish and Wildlife - Service Christie Boser
- U.S. Fish and Wildlife Service - Kristie Scarazzo
- yak titʷu titʷu yak tiłhini – Northern Chumash Tribe San Luis Obispo County and Region –
Mona Tucker;
yak titʷu titʷu yak tiłhini - Haylee Bautista;
yak titʷu titʷu yak tiłhini - Lorie Laguna;
yak titʷu titʷu yak tiłhini - Lisa Lathrop;
yak titʷu titʷu yak tiłhini – Scott Lathrop;
yak titʷu titʷu yak tiłhini - Willow Olivas;
yak titʷu titʷu yak tiłhini - Kelsey Schaffer

MRS staff and subcontractors involved in the preparation of the Draft EIR included the following:

Table 8.1 List of Draft EIR Preparers and Responsibilities

Company (Affiliation)	Key Contributors	Responsibilities
MRS Environmental, Inc. (Prime Contractor)	Greg Chittick, B.S., M.S. Mechanical and Environmental Engineering	Project Management, Air Quality, Greenhouse Gas Emissions Hazards and Hazardous Materials, Noise, Wildfire, Alternatives
	John Peirson, Jr., B.A. Mathematics and Chemical Engineering	QA/QC, Project Scoping
	Dean Dusette, B.A. Geography	QA/QC, Air Quality, Greenhouse Gas Emissions
	Lauren Brown, B.S. Ecology & Systematic Biology	Biological Resources
	Nicole Trezza, B.S. Environmental Studies	QA/QC, Energy, GIS, Cumulative Study Area, Technical Editor
SWCA Environmental Consultants	Emily Creel, J.D. Law Degree, B.A. Political Science	Project Management, Land Use and Planning
	Robert Carr, B.S. Landscape Architecture	Aesthetics
	Cassidy Bewley, B.S. Environmental Management & Protection	Agricultural Resources, Recreation and Coastal Access
	Jon Claxton, B.S. Biological Sciences	Biological Resources
	Leroy Laurie, B.S. Social Sciences	Cultural and Tribal Cultural Resources
	Annika Kiemm, B.S. Environmental Management & Protection	Public Services, Utilities and Service Systems
Dudek	Perry Russell, PG, CEG, M.S. Geological Sciences	Geology and Soils, Hydrology and Water Quality, Sea Level Rise
Central Coast Transportation Consulting	Joe Fernandez, PE, AICP, M.S. Civil Engineering	Transportation
	Michelle Matson, M.S. Civil Engineering	Transportation

8.0 List of Preparers and Contacts
